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Academic Literacies and Attitudes of EFL Students in a CMC Environment

by

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MA English, PGD in ELT, PGD in Professional Studies in Education

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requirements of the degree of Doctor of Education**

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Abstract

There is a growing volume of research showing that academic literacy is discipline specific. To become proficient in a specific discipline and be a part of a discourse community, learners have to learn ways of communication acquired through understanding and practising the necessary genres associated with that discipline. Both synchronous and asynchronous Computer-mediated communication (CMC) provides opportunities for learners to be a part of that discourse community and learn particular ways of discourse in a collaborative environment.

This research investigated how a group of English as a Foreign Language (EFL) learners in a Saudi Arabian university was introduced to academic writing by completing CMC tasks collaboratively. Learners' interactions were examined via a descriptive design to explain how students negotiate academic literacy using synchronous chat and asynchronous discussion boards. Data were gathered from 6 sources: observations, survey questionnaires, texts of participants' online discussion entries, online peer feedback, students' assignments, and interviews. Data were analyzed both quantitatively and qualitatively to investigate how these EFL undergraduate students negotiate their academic literacy in a CMC environment in terms of language functions and focus; how CMC influences both the process and the product of student's academic writing activities; and what EFL students' attitudes were towards CMC in the process of acquiring academic literacy.

Data analysis revealed the various discourse functions EFL learners used in their online discussions. Results indicated that computer-mediated communication facilitated students' understanding of tasks and performance of writing activities and promoted collaboration. Analysis of the students' draft and revised essays in the online peer review

activities showed that students integrated peers' feedback into their revisions and benefited from such activities although they were not satisfied with the quality and quantity of feedback. A comparison of the students' participation in the face-to-face classrooms with their participation in both synchronous and asynchronous CMC activities afforded through Blackboard® learning management system (LMS) revealed more active interaction during CMC activities in terms of its content and quality. Finally, the EFL students perceived that CMC facilitated their acquisition of academic literacy in academic writing and promoted collaboration despite some limitations.

Chapter 1

Introduction

1.1 Introduction

My interest in exploring the effects of teaching academic writing in a Computer-Mediated Communication (CMC) Environment began when the King Khalid University, where I was a lecturer in English, mostly teaching writing English as a Foreign Language (EFL) skill courses at undergraduate level, announced provision of an e-learning centre for incorporating technology in pedagogy (<http://elc.kku.edu.sa/>). As of Feb 2010, all units of the university were obliged to use this facility. Initially, teachers were required to deliver 30% of their course work on-line using Blackboard® LMS. In the Saudi Arabian context, this initiative provided an excellent opportunity for teachers and researchers alike to explore the impact of technology on learning outcomes and teaching methodology. With the provision of the Blackboard® LMS to facilitate and blend teaching and learning with the face-to-face classroom in the department of English and my interest and experience in teaching writing, I decided to investigate the impact of technology on the teaching and learning of academic writing in this context.

Before I move on to discuss the significance of the literature that emphasises the role of CMC affordances, especially in the context of academic writing, it will be pertinent here to present the broader educational context in which this research took place focussing specifically on the teaching of English as a foreign language. When I started teaching in King Khalid University in 2003, I found that the Saudi students were very weak and lacked basic knowledge of English language rules. King Khalid University at Abha is among the 5 universities that the Ministry of Higher Education established in 1997 in different regions of the Kingdom under a massive higher education expansion programme. The university takes in students from both private and public sector schools

after a very basic entry test, which almost every candidate usually passes comfortably. Students with the highest grades are normally interested to join faculties of medicine, engineering or information technology. The remaining students opt for pure sciences and those with the lowest grades join faculties of arts including English.

The public schools all over the Kingdom offer education in three stages; primary schooling is for the first 6 years, followed by 3 years in middle school and 3 years in secondary school. The teaching of English as a foreign language starts in the fifth year of the primary school (5th grade). Although English is taught to all students and is part of the examinable curriculum, a student is passed/promoted to the next grade even if they fail the English exams. This holds true of the secondary school certificate, which a student can get even if they fail in the subject of English language. Therefore, generally the learners lack motivation to acquire English as a foreign language. In contrast, the conditions of teaching and learning in private schools are better because they start teaching English from the first class in the primary schools. Generally the students from private schools have better English language skills and proficiency than the public school students.

Due to the conservative nature of Saudi society, no prestige is associated with the use of English in social contexts, unlike in the Indian sub-continent or other commonwealth countries. The products of multinational companies available in markets have their names and logos in Arabic. Even the major tools of modern day communication like computers, mobiles and tablets have an Arabic interface. In such an environment, it could be expected that the use of English both by people in general and students in particular would be minimal. However, once in the university, the students must pass compulsory English courses offered in all faculties to get their bachelors degree. So at university level, students have to work hard to acquire some proficiency in the English

language in order to qualify for the degree award. Consequently, despite their initial weaknesses, most students struggle hard to achieve passable English language competence.

As pointed out above, CMC tools in my university were introduced in the form of blended e-learning courses provided through Blackboard® LMS. All the teaching faculties were required to blend all of their courses gradually from 30% online course content delivery and instruction to 70%. All the instructors were provided with training to use the Blackboard® LMS. At the time I started my study all the instructors in the university were using Blackboard® LMS to blend their course content delivery. The academic writing course, of which I studied two sections, was a 30% blended course (that is, 30% of the course needed to be taught online). The teachers were required to teach two hours in face-to-face classrooms and arrange and engage students in one hour on-line activities every week. Over one term, 12 asynchronous forum discussion activities and 6 synchronous discussions were conducted, which provided the data for my study. (The details are given in Section 3.4 below.) The instructors provided instructions in the face-to-face classes on how and when to participate in these forums. CMC via Blackboard® LMS was part of the course but not all the students' online participation was assessed for course evaluation. The assignments posted onto the Blackboard® LMS were assessed and marked and they constituted 30% of the total term work assessment. The participation in both synchronous and asynchronous online forums was not part of the term work assessment, although participation in synchronous sessions was mandatory as it counted towards the attendance requirements to be fulfilled by every student.

A review of the current literature in academic writing provides insight into how CMC may be beneficial to academic writing. Studies show how English as a Foreign

Language/English as a Second Language (EFL/ESL) learners can develop their own academic identities through the use of CMC (Helvie, 2012). For the most part, students in traditional academic writing courses rarely interact with students outside of their discipline (Helvie 2012, p. 23). When they study academic writing through online delivery networks, and when they are seriously engaged in working in an e-learning environment in addition to traditional classroom settings, they will most likely remain closely connected to their e-pals who share with them academic writing interests and/or attitudes because writing then becomes an interactive socialising and acculturating community (Helvie 2012; Lovelace & Wheeler 2006; Jung 2007; Riley 2008; Wortham 2005).

Research remains very diverse and prolific on different aspects of the affordances of CMC, for instance, it has tackled issues of affect, metacognition (Antonietti et al. 2008; Boekaerts et al. 2000), psychological factors influencing CMC in the classroom including attitudinal and motivational factors (e.g., Gal-Ezer & Lupo 2002; Derks et al. 2008; Gao 2003; Mishra & Yadav 2006), effective presentation of academic literacy instruction in asynchronous CMC mediums (Hirvela 2007; Goodfellow 2005; Potts 2005); and active, collaborative participant learning (Abrams 2001; Potts 2005; Zeng & Takatsuka 2009). In relation to English language learners, most studies conducted on the use of CMC as a collaborative and interactive tool were carried out in ESL contexts and/or in contexts where non-native speakers (NNS) of English studied in native English speaking countries. Furthermore, those few studies conducted in EFL contexts are overwhelmingly carried out in the South-East and Far East, including China (Zhixue & Shaoshan 2003; You 2004), but less so in the Arab world where EFL teaching itself (on a much wider scale compared to the recent past) and the incorporation of technology(ies) in education is a relatively recent phenomenon. Hence arises the need for research that considers current classroom

practices in the Middle East where technology is used as a collaborative-supportive tool in order to study the benefit or drawbacks of web tools from the perspective of collaboration and interaction. It is against this background that I decided to undertake my research in a male-only university in Saudi Arabia, where the use of technology is a relatively recent phenomenon and therefore there is now a need to study the pros and cons of CMC as collaborative tool.

In terms of research from an academic literacies perspective, many of the studies conducted focus on the nature and types of writing tasks that both L1 and L2 students have to perform. There is an extensive literature concerned with 'academic literacy' in first language and second language research (see for example Lea & Street 1997, 1998, 2006; Lea 1998; Lillis 2003) and the ways in which students have to adapt to a language and discourse that is specific to a subject or discipline area. Yet, few studies, especially in the Arabian EFL context, focus on how students develop their academic literacy and gain access to the particular discourse community in performing their writing tasks using CMC tools. In my research, I focussed on the acquisition of academic literacy as a process of acculturation into the discourse community of the particular academic writing course, the social environment of the students both in the classroom and online fora (as conducive to interaction and collaboration), and the institution. This is in line with earlier literature that has identified academic literacy as "a social practice rather than a set of cognitive skills to be learnt and assimilated. This approach takes account of the cultural and contextual components of writing and research practices" (Lea & Street 1996, p. 2). Such an approach looks at students' output whilst taking into consideration the academic context of the classroom in its specific social settings.

Past research involving a social perspective has highlighted the need to study students' interactions in order to gauge the effectiveness of CMC. Students' enhanced interaction using text based CMC is taken as evidence of its benefits. As such, EFL learners using CMC can "benefit from interaction, because the written nature of the discussion allows greater opportunity to attend to and reflect on the form and content of the communication" (Warschauer & Kern 2000, p. 15). Furthermore, in studies of L2 learners, "community is frequently understood as constructed by and within the patterns of interaction exhibited by the participants" (Potts 2005, p. 145). Researchers have started to study learners' written interaction and their value in promoting learner community and there is a growing body of research in this domain. Learners' written interactions, therefore, are investigated in the present study to gauge the role of CMC in promoting a learner-centered environment. Specifically, I explore discourse functions used by EFL learners in their written CMC interactions. Discourse functions include greeting, explaining, questioning, advising, critiquing and others and are discussed further below. They are central to understanding students' use of language in CMC, and its potential to generate collaborative learning. Learners accumulate their linguistic knowledge and their growing experience with language use by deploying a wider, more flexible variety of linguistic forms to express a particular discourse function (Berman & Slobin 1994; Berman 1996; Slobin 1996).

Having so far rationalized the context of my research, it would be pertinent to briefly outline the theoretical framework of my research, although this is going to be discussed in detail in the following chapter. My research into academic literacy development through online course delivery in a CMC environment that provides for synchronous and asynchronous communication is grounded in Collaborative Learning Theory (CLT) (Bruffee 1984, 1986; Johnson & Johnson 1987). CLT emphasizes group

interaction where e-learners share their learning experiences and express their thoughts to the instructor and peers through course blogs, wikis, discussion boards and forums. In the same vein, computer supported collaborative learning (CSCL) approaches, according to Stahl et al. (2006), “began to explore how computers could bring students together to learn collaboratively in small groups and in learning communities. Motivated by social constructivist and dialogical theories, these efforts sought to provide and support opportunities for students to learn together by directed discourse that would construct shared knowledge” (p. 3). CSCL brought a shift from a focus on mental models of individual cognition to a focus on support for collaborating groups. According to Stahl et al. (2006), the field of CSCL needs to focus more “on the meaning-making practices of collaborating groups and on the design of technological artefacts to mediate interaction, rather than a focus on individual learning” (p. 9).

Additionally, CMC may also be understood from the perspective of the constructivist approach (McMahon 1997). Social constructivism has been developed from the theories of Bakhtin (1981), Bruner (1966) and Vygotsky (1978). According to this theory, knowledge is fluid, not fixed, and learners build their knowledge by engaging in collaborative activities with other students, instructors and the learning environment. The implication of this is that educators create learning communities that are akin to the collaborative practice of the real world. In online collaborative learning, the process of building knowledge and the process of idea-sharing and feedback among members who collaborate is considered by proponents of social constructivism to be one of the highest levels of construction. Through its facilitation of collaboration, therefore, CMC may be conducive to promoting writing as a process. The writing process approach in academic writing contexts through peer collaboration is emphasized by Bruffee (1984) and Flower & Hayes (1981), who urge composition teachers to teach writing as a process, not a

product. This approach is believed to help learners acquire awareness of their writing process, along with learning to write from a reader's perspective. It also promotes collaboration through students editing their own and their peers' writing. Web-conferencing, online forums, and applications such as Microsoft Word are capable of engaging students to apply writing processes.

The study, therefore, is set to investigate all the issues discussed above in the context of exploring the effects of computer-mediated communication in the medium of Blackboard® LMS. The following section presents the research questions investigated in this study.

1.2 Research questions

1. How do participants (EFL learners in a Saudi undergraduate college) use CMC to negotiate academic literacy with peers?
 - a. What discourse functions do participants use when they are engaged in online discussions?
 - b. Are there differences in the use of discourse functions in synchronous and asynchronous writing?
2. How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?
 - a. How does peer feedback provided via CMC tools influence EFL learners' completion of their assignments?
 - b. How do students perceive the role of feedback provided via CMC tools in producing their final drafts?

3. What are students' attitudes towards the collaborative writing process through CMC?

1.3 Definitions of terms

For a clear understanding of the thesis, the following definitions of certain terms which have been used in this study are presented below.

Academic literacies refers to a knowledge and fluency in the particular ways of being, thinking, doing, reading and writing peculiar to academic contexts. In order to acquire academic literacy, it is important to learn the ways of communication in the particular discipline (Berkenkotter et al. 1991). The investigation focus in this study, academic writing, serves to examine EFL students' acquisition of academic literacies in the context of this university, the course of study (Academic Writing) and the discourse community of the academic writing course. Although it is not the focus of my study, I acknowledge that when people learn academic literacies as part of an English writing course, they may specifically be buying into British or American norms. Students are not neutrally, inevitably or unproblematically picking up universal academic norms through collaboration.

Discourse communities denotes groups of people with certain things in common; a common goal, a common body of specialized knowledge, a specialized lexicon (vocabulary), and similar beliefs about how knowledge is generated (Swales 1990). Members in a discourse community also share an understanding of how to communicate with each other and with the larger community. In this study the discourse community of academic writers will be explored. Academic writers is a very broad term which may include students writing essays, lecturers, researchers and professors writing items for

publication. Even publishers and editors can be included in this category. I would say that although on one level, all academic writers share some goals and conventions, there are lots of divisions within this, not only because of discipline, but nationality, university, department and so on. So, specifically I will be studying students' essay writing in the discourse community of their classroom.

Discourse functions are linguistic choices that reflect the social purposes for which language is used (Halliday 1973). They may also be considered as features of text construction making references, expressing temporal relations, and interconnecting the parts of a discourse into thematically coherent units (Berman & Nir Sagiv 2004, p. 340). Eleven categories of discourse functions in online discussion have been developed as the result of a pilot study (discussed in Chapter 3): greeting, explaining, supporting and confirming, questioning, advising, reacting, eliciting, critiquing and showing disagreement.

1.4 Overview of the thesis

In the preceding discussion, I have given an introduction to the context, the issues, the relevant theoretical underpinnings, the research questions and the definition of important terms. In Chapter 2, I will discuss in detail the theoretical background of my research, in addition to reviewing relevant literature focusing mainly on CMC tools and their various uses in different settings like academic writing, foreign language learning, academic literacy etc and how it has been seen as a tool for enhancing collaborative learning. In Chapter 3, I will explain the research methodology, methods, procedures of data collection and analysis together with a detailed view of the setting and participants. In Chapter 4 (the lengthiest of all), I will present findings of all the research questions, briefly throwing light on the implications of some important findings. In the last chapter (Chapter 5) the results will be explained, discussed and interpreted in detail. Here I will

link the findings of the research questions to other similar research. I will also discuss pedagogical implications and limitations of the study in this final chapter and briefly indicate its implications for future research.

Chapter 2

Theoretical framework and literature review

2.1 Overview

This chapter presents the theoretical framework for my research and a review of the relevant literature. In the first section, I will clarify the theoretical basis of my research showing the relevance to my study of theory and research in the areas of academic literacies, discourse communities, social constructivism and collaborative learning. In order to report empirical research in areas and fields which are relevant to my research and which need further investigation, I will review relevant literature in the second section.

2.2 Theoretical framework

2.2.1 Academic literacy

Academic literacy has been conceptualized and defined in a number of different ways by researchers. A review of this term reveals the contested nature of the concept and of the associated interpretations and definitions (Lillis & Scott 2007). On one level, academic literacy has been defined in terms of students' individual skills and competence in academic environments. For example, Lin (2009) defines academic literacy as a student's ability to produce written texts conforming to the pedagogical genres of their department. She considers it the most essential element for students' success in their subject areas. In a somewhat similar way, other researchers argue that undergraduate students aspiring to join an academic discipline require specialized academic literacy that "consists of the ability to use discipline-specific rhetorical and linguistic conventions to serve their purpose as writers" (Berkenkotter et al. 1991, p. 191). Students begin acquiring academic literacy through their own reading and writing, through instruction in

genre conventions of the particular discipline, and through constant interaction with faculty and peers in the same discipline. In the process, students gradually adopt the values and beliefs of the discipline and learn the forms of communication in the field. The process to acquire academic literacy is actually the process for students to learn the ways of communication in a particular discipline (Berkenkotter et al. 1991) and is acquired in the social context of the discourse community.

While discussing the acquisition of academic literacy, most researchers taking this approach have stressed the centrality of writing skills. Writing tasks in higher education often require students to draw upon particular disciplinary sources and to adopt the styles and genres of academic discourse (Crook 2005). In other words, the learners should have a critical awareness of writing practices in their particular fields. This involves possessing knowledge about how to conduct research, summarize and paraphrase, cite sources, adopt genre conventions that meet audience expectations, and select words and grammatical patterns that are characteristic of less personal and more formal genres of writing (Braine 2002).

On another level, some researchers have also brought up and discussed the social and ideological dimensions of the acquisition of academic literacy (Lea and Street 1998). Academic literacy is acquired by students in academic discourse communities. Students entering academic disciplines have to learn the forms of communication and disciplinary knowledge that are commonly employed by members of a particular disciplinary discourse community. Without this knowledge, students are still outsiders to the community's discourse and yet the acquisition of the conventions of discourse communities is not enough for both novices and experts to maintain their membership. They must also learn what Bazerman (1994) called *conversations of the discipline* which

refers to “issues and problems that are currently under discussion within the community” (Berkenkotter & Huckin 1995, p. 118). Students' acquisition of both conventions and conversations of academic literacy depends on some formal or informal involvement with experienced members of the community such as experienced teachers or practising scholars.

The idea of literacy as a social practice is defined by Lillis & Scott (2007, p. 12) as follows:

written texts – do not exist in isolation but are bound up with what people do – practices – in the material, social world. Secondly, that ways of doing things with texts become part of everyday, implicit life routines both of the individual, habitus, in Bourdieu's terms, and of social institutions.

This implies that learners are socially connected with each other in their academic environment and follow certain established practices while acquiring other new practices. The learners make such new social practices part of their routines while learning or acquiring new skills and practising them in their discourse community.

While acknowledging the importance of engaging in academic literacy concepts associated with skills, styles and cognition of the discipline-specific genres, Lea & Street also stress the ideological nature of these practices. In making these claims, Lea & Street (1998) build upon theories of reading, writing, and literacy as social practices; in other words, learners acquire literacy when they come into contact and interact with other learners, teachers and the subject matter in the context of their learning environment. Challenging the dominant deficit model (which necessarily views student writing in terms of either good or bad writing), they argue for a new approach to understanding student writing and literacy in academic contexts, which they call the academic literacies model.

They point out that students' writing in academic contexts and their acquisition of academic literacy could be conceptualized through the use of three overlapping perspectives or models: (a) a study skills model, where student writing is viewed as a technical and instrumental skill (b) an academic socialization model, which views student writing as a transparent medium of representation and (c) an academic literacies model, according to which student writing is meaning-making and contested. An academic literacies model views student writing and learning as involving issues at the level of epistemology (defined narrowly, epistemology is the study of knowledge and justified belief) and identities rather than skills or socialisation. An academic literacies approach "views the institutions in which academic practices take place as constituted in, and as sites of, discourse and power. It sees the literacy demands of the curriculum as involving a variety of communicative practices, including genres, fields and disciplines" (Lea & Street 1998, p. 3). From the point of view of students, central to academic literacy practices is the ability to distinguish between various settings, to use appropriate linguistic choices in each setting, and to tackle the social meanings and identities associated with each setting. With the emphasis on identities and social meanings Lea & Street draw attention to deep affective and ideological conflicts in such switching and use of the linguistic repertoire.

Having shown that an academic literacy approach views students' writing as being of an ideological nature and socially situated, I will now turn to Lillis (2003, p. 192) who proposes that it "can actively contribute to student writing pedagogy as both theory and practice". Drawing on Bakhtin's work, Lillis outlines different levels of dialogism in relation to the goals of higher education and shows their presence or absence in current student writing pedagogy. By dialogism she means "making visible/ challenging/ playing with official and unofficial discourse" (Lillis 2003, p. 193). Her approach is close to Lea and

Street in that, in the “call for dialogue rather than monologue or dialectic to be at the centre of an academic literacies stance” (p. 193), she is implicitly challenging, like them, the deficit model which according to her is monologic and linear. Her assertion that an academic literacies stance views learners as a heterogeneous community of participants shows that she views students’ writing as being of an ideological nature and socially situated.

In the above discussion, I have shown various perspectives on the term academic literacy in order to bring out the importance of differing views, in relation to which I will now justify my own standpoint. I have taught writing skills for the last twenty three years and remain engaged in curriculum development and instructional programmes. With the introduction of Computer-Mediated Communication (CMC) through the affordances of the Blackboard® LMS in 2008 in the university where I worked as a lecturer, I became interested in exploring the role that e-learning can play in supporting and promoting academic literacy. Since my focus was to investigate and describe how students acquire the surface features of texts using CMC tools in addition to face-to-face teaching and how they do it in the social context of their course and the university, the most relevant model for my research was the third model which Lea & Street (1998) call the *academic literacies model* where student writing is seen as meaning-making. At the same time I was also taking account of the local model of writing skills instruction in my own university context, which was closer to Lea & Street’s first study skills model. As Lea & Street (1998) point out, however, all the three models overlap. This leads us to another related concept— the discourse community— the role of which is closely associated with promoting academic literacies among students. In the following section I will present a review of this term and its relation to academic literacy.

2.2.2 Academic literacy and discourse communities

A discourse community has been defined as a group of people who share some specific interests and a set of social conventions that are directed toward some purpose (Swales 1990). Discourse communities are found in both academic and other contexts, such as professional, social, political and recreational ones (Johns 1997). With the development of technology, there are now online communities with members who never physically meet each other, but stay in contact on a regular basis. Although it was possible for such communities to form before the advent of the internet through newsletters and phone, internet technology has greatly facilitated easy and quick communication contact among the members of such discourse communities. Swales (1990) lists six categories for defining a discourse community:

- A broadly agreed set of common public goals
- Mechanisms of intercommunication among its members
- Provision of information and feedback
- Genres creating discursial expectations
- Some shared specific lexis
- A threshold level of expert and novice members

In academic contexts, academic literacy is acquired by students in particular discourse communities. Novices acquire academic literacy through disciplinary knowledge widely recognized in the field to communicate with their peers and undergo a change from novices to experts. The discourse community in my research was the academic community of the two academic writing class sections. Following Swales' model outlined above, in the context of my study students participated in the activities of the discourse community of academic writing through engagement with the disciplinary knowledge

provided through their course book (*Effective Academic Writing 3*, Oxford University Press 2006), through lectures by the teachers, and through online learning resources. They learnt about various genres of essay writing and practised writing in those specific genres. They also provided and received peer feedback on whether their performance was successful. The common goal for the students was to acquire competence in their academic writing and pass the Writing 217 course. The mechanism for communication was participation in both synchronous and asynchronous activities using CMC in addition to classroom participation.

In exploring these learners as an academic community, my focus was on the interaction afforded through synchronous and asynchronous CMC writing that involved discussions among students on the mechanics of writing like error correction, paragraph organisation and peer feedback, and on the collaboration discerned in the students' interaction through the use of various discourse functions etc. – and not writing per se. That is to say that I looked at what went on in their discussions on the issues related to writing and composition rather than their writing products. So the concept of a 'discourse community' is useful for my study because academic literacy takes place and is often investigated in the social context of the academic community. Thus this study of academic literacy goes beyond many others which rely on textual analysis of learners' discourse to find evidence of the occurrence of literacies, especially in an academic socialisation model.

2.2.3. Interaction and collaboration

This section starts with a discussion on interaction followed by an elaboration of the term collaboration. The pedagogic importance of interaction has been well-established by researchers. There is a general consensus in language education that interaction is necessary for language learning. Allwright (1984) discusses in detail the various

connotations associated with the term 'interaction' and its confusion with the word 'communication'. Allwright (1984), while writing on the importance of interaction in the language classroom, suggests that because the communicative approach to language teaching "relies heavily on the value of interaction" (p. 156) in its most familiar form, sometimes the two words 'communication' and 'interaction' are considered synonymous. Tracing various arguments in favour of communication in the classroom, he points out that although on the surface level all the four major arguments in favour of communication in the classroom accept the centrality of interaction, "they do not constitute strong support for live person-to-person interaction itself as an absolute necessity for successful language pedagogy" (p. 158). Since, according to him, the centrality of learning lies in live person to person interaction, which may not be the chief aim of various arguments in favour of communicative language teaching, he establishes that interaction should not be confused with communication. For him, interaction occurs between people, whereas communication can take place for example between a learner —and a text when a learner is engaged in carrying out a task following written instructions.—

He also argues "that successful pedagogy, in any subject, necessarily involves the successful management of classroom interaction" (p. 159) and concludes that the successful management of classroom interaction involves both the learners and the teacher, since interaction is not a unilateral but a bilateral activity. Similarly Long (1996) recognises the centrality of interaction in language learning. For Long, the basic principle of the interaction hypothesis is that when language learners receive input and interact with other learners, they have the opportunity to see the differences between the language that they produce and the language of their interlocutors. The feedback that the learners receive modifies the linguistic input and their own output during a conversation. Citing various examples from empirical research, Gass and Mackey (2006) suggest that

research has identified the mechanisms of interaction as important to language acquisition in addition to other individual learner differences. They demonstrate through examples carried out via research on input, interaction, feedback and output that learning is clearly linked with interaction and argue that this area of research may be referred to as the 'interaction approach'. They also suggest that due to the importance and centrality of interaction for learning, further research may be carried out in various educational contexts exploiting the interaction approach. The present study explores one such educational context, computer-mediated communication, which served as a tool for interaction among teachers and learners and among learners and other learners in order to provide input, interaction, feedback and output. Further details on such interaction will follow in Section 2.3.1 on CMC and interaction below.

Collaborative Learning Theory (CLT) developed from the scholarly work of Bruffee (1984, 1986) and Johnson & Johnson (1987). Bruffee built his ideas on collaboration on the constructivist approach. The focus of CLT is on group interaction and sharing. CLT regards *sharing* as a fundamental feature of successful collaboration. Sharing in this sense can take place through the use of an online workplace for exchanging resources, negotiating ideas, and coordinating collaboration among "a group of people who use technology for social collaborative learning" (Wang 2010, p. 1271). According to Bruffee (1995), when learners share more insights and viewpoints, better opportunities are created for engaging minds in a network of thoughts that lead to more negotiations and multiple perspectives, which empower learning and make it more authentic. Johnson & Johnson (1987) argue that in online collaborative learning settings, students do not learn passively but actively, negotiating and discovering more meaning through reconceptualization of prior knowledge and through working in an environment that reduces anxiety and uncertainty. Students are motivated to learn with groups because

they feel that the encouraging words they get from their peers are motivational rewards. Students develop a positive attitude and become interdependent learners as they help each other through inquiry (Matthew et al. 2009; Quinn 2011).

From the CLT perspective, collaboration means learners working together towards a shared and common goal, and CMC provides a viable environment for such collaboration in which EFL learners can increase the sharing of insights and viewpoints. In this respect, two major arguments are advanced in the literature for the use of collaborative online learning. The first of these concerns the effectiveness of group work in assisting understanding, promoting exploratory communication and questioning and developing higher order thinking in a variety of programmes at tertiary level (Litecky 1992; Bowering et al. 2007). The second argument that Chaffee (1992) advances in favour of CLT is about its effectiveness in promoting active learning, involving interactive teaching, student-led discussions and stimulating projects as lying “at the heart of effective, lasting education” (Chaffee 1992, p.31). Both these arguments, one bringing out the effectiveness of group work, sharing and developing higher order thinking and the second promoting active, student centred, interactive learning, are achievable using CMC as this provides a mutually shared workspace where learners interact in their own time, question, critique, explain, and actively engage in learning activities.

However, Kreijns et al. (2003) reviewed research on collaborative learning using CMC (e.g. Gunawardena 1995; Hallett & Cummings 1997; Hobbaugh 1997) and pointed out that “the key to the efficacy of collaborative learning is social interaction, and lack of it [online] is a factor causing the negative effectiveness of collaborative learning” (p. 349). Kreijns et al.’s (2003) premise is that the shift from contiguous learning groups to asynchronous distributed learning groups has fallen prey to two major pitfalls. The first

pitfall is to assume that social interaction takes place automatically just because an educational setting makes it technologically possible. The second is relying heavily on educational interventions aimed only at cognitive processes while ignoring, neglecting or forgetting the social dimensions of the desired interactions. Therefore, Kreijns et al. (2003) propose the designing of *sociable* computer supported collaborative learning (CSCL) environments that are aimed at providing non-task contexts to allow social, off-task communication (e.g. casual communication) and to facilitate and increase the number of spontaneous encounters in task and non-task contexts through the inclusion of constant presence and awareness through time and space of the other members of the distributed learning group. In my study, I describe how CMC can provide potential socio-affective benefits which help students from the social and affective perspectives; that is, how learners' online interactions enabled them to collaboratively support one another and how the support offered through CMC facilitated and shaped their acquisition of academic literacy. Such collaboration also has a psychological dimension related to the learners' attitudes and feelings towards the CMC medium. Thus for me the term 'socio-affective' bridges the overlapping social and psychological dimensions of the findings by focusing on how social interaction shapes or moulds the students' attitudes towards learning.

Beliefs which are grounded in insightful research findings about the relevant cooperative strategies which underlie CMC can play an important role in using CMC tools as an instructional medium (Antonietti et al. 2008). For instance, Antonietti et al. (2008) explain why teachers are advised to use pre-determined conversational scripts for their students to initiate collaborative working patterns. These working patterns are expected to be practised by potential participants in an electronic forum on cultural topics. This forum functions as a springboard for learning tasks. Thus, meta-cognitive knowledge can

influence learning outcomes since beliefs about the mental processes involved in learning persuade students to locate cognitive resources and to choose thinking strategies which are consistent with those beliefs themselves (Schraw & Moshman 1995).

2.2.4 Social constructivism and computer-mediated communication

The acquisition of academic literacy has often been investigated in the CMC context through the examination of teaching and learning writing skills in various academic communities. Warschauer (1997) attempts to define a conceptual framework for CMC exploiting a social constructivist approach. Social constructivism has been developed from the theories of Vygotsky (1978), Bruner (1966) and Bakhtin (1981). According to this theory, knowledge is not a fixed object – rather, it is fluid; learners construct their knowledge through engagements in collaborative learning activities with other students, with the instructor, and with the learning environment. This approach emphasizes authentic, challenging projects that include students, teachers, and experts in the learning community – that is, in social settings, hence the label, *social constructivism*. Thus what is learned and constructed depends both on the shared experiences and on each member's efforts in the group. Social constructivism, therefore, also places collaboration and interaction at the heart of all learning. So Warschauer's (1997) conceptual framework is based on an analysis of the relationships among text, talk, and learning. Such a conceptual framework can show precisely how students use language-related collaboration. Exploiting CMC, students' knowledge can be constructed and reconstructed through dialogue, text-based interaction, web-conferencing, and face-to-face discussions. In this regard, Warschauer's conceptual framework for CMC involves exploring text mediation ("linking the concepts of expression, interaction, reflection, problem-solving, critical thinking, and literacy with the various uses of talk, text, inquiry,

and collaboration in the classroom" (Warschauer 1997, p. 472)) as a means of negotiating Vygotsky's zone of proximal development in the collaborative creation of meaning (Warschauer 1997, p. 471). According to Vygotsky (1978, 1986), individual learners display more enhanced developmental capabilities in collaborative situations than when they are working alone. In the light of the concept of the zone of proximal development propounded by Vygotsky and Bruner's concept of scaffolding discussed earlier, ZPD is a measure of the difference between the two capabilities of learners—one as collaborating learner and the other as individual learner. However, measuring this difference is not simple or straightforward even when using pre and post tests. To tackle this difficulty, both Warschauer (1997) and Harnad (1991) explore two views of language: as *interactive* (i.e. by employing speech), and *reflective* (i.e. facilitated through the permanence of the written text). It has been postulated that the act of composing a text through spoken discussion together with the permanence of the created text—which is achieved with the help of CMC, which incorporates features of both written and spoken texts—can increase mental-functioning by "allowing the-[...] writer to bootstrap his or her own thinking in a more powerful and intentional manner than is normally possible in speech" (Wells & Chang-Wells 1992, p. 122).

The theoretical underpinning of my research also hinges on the "text mediational view" inasmuch as the role of collaboration through CMC and the investigation of learners' written and spoken interaction in their specific social environment is concerned. This has particularly informed my first research question on academic literacies: "How do EFL students negotiate academic literacy using CMC?" Exploiting this perspective, I wanted to analyse EFL learners' interactions and deduce how through the various uses of discourse functions EFL students mediate and negotiate their academic writing process and acquire academic literacy.

In the above section, I have explained the theoretical basis of my study with reference to academic literacy and the associated idea of discourse communities, collaboration and interaction and social constructivism. I have drawn on ideas and concepts in relation to academic literacy, discourse community, interaction and collaboration and social constructivism to show their relevance to my research.

2.3 Literature review

In the following sections, a review of the literature will be provided highlighting the research that addresses the issues of collaborative EFL learning and the role of computer-mediated communication tools in foreign and second language acquisition (SLA), in addition to discussing the benefits of using technology in EFL academic writing. Since my stance is viewing the development of academic literacy in the social context of the students' discourse community, I suggest in the literature review that there is a relative lack of studies that look at EFL writing from a social perspective despite such research in other areas, including both foreign language learning (that is, research into languages other than English) and non-EFL writing—that is research in environments where English is either the first or the second language.

2.3.1 CMC, interaction and collaboration

Computer-mediated communication (CMC) has been increasingly used in the educational environment, especially in the last two decades, owing to huge advances in world wide web technologies. Initially it was brought in to support distance learning. Currently, it has grown into a popular and widely used pedagogical tool providing online education in almost all spheres of academic fields. One of the most exciting aspects of CMC involves synchronous (or instantaneous) interaction on a local area network (LAN). The research literature on foreign and second language learning reports that this type of electronic

discussion encourages learners to construct knowledge collaboratively (e.g., Beauvois 1992a 1992b; Berge & Collins 1994; Meunier 1994; Warschauer 1996, 1997). Additional benefits of CMC include greater participation by people in subordinate positions like women and minorities (Bruce et al. 1993), shy students, and the physically challenged (Kiesler et al. 1984).

Given that the focus of CLT is on group interaction (Bruffee 1984, 1986; Johnson & Johnson 1987) the proponents of the theory regard sharing as a fundamental feature of successful collaboration. In the context where CMC tools are used, sharing is the “use of an online workplace” for exchanging resources, negotiating ideas and coordinating collaboration (Wang 2010, p. 1271). However, the presence of technology alone is not sufficient to induce learners into collaboration. In this vein, for effective collaboration to take place, Wang (2010) has suggested strategies that must be applied by teachers to coordinate individual efforts and scrutinize the process of learning. The primary purpose of Wang’s study was to examine whether using shared workspaces together with writing progress reports could help to coordinate individual contributions and monitor the collaborative learning process. The results indicate that although shared workspaces had the potential to support group coordination, not all participants actively used their workspaces to support two-way interaction. About half of the groups used the workspaces for reporting progress and one-way information sharing only. Wang concludes that the groups which were monitored closely and to whom the teacher provided more feedback and encouraging comments participated more actively than the other groups. Wang echoes concerns that I mentioned in Section 2.2.5 by Kreijns et al. (2003) that the availability of technology alone is not sufficient to induce students into collaboration. Since social interaction is at the heart of collaboration, Kreijns et al. (2003) advocate the provision of sociable CMC environments to learners while Wang (2010)

suggests close monitoring and encouraging feedback to increase the social interaction of the learners.

Jepson (2005) felt that despite the expanded use of the Internet for language learning and practice, little attention if any was given to the quality of interactions among English L2 speakers in conversational text or voice chat rooms. He explored the patterns of repair moves in synchronous non-native speaker (NNS) text chat rooms in comparison to voice chat rooms on the Internet. The following questions were posed: (a) Which types of repair moves occur in text and voice chats; and (b) what are the differences, if any, between the repair moves in text chats and voice chats when time is held constant? Repair moves made by anonymous NNSs in 10, 5-minute, synchronous chat room sessions (5 text-chat sessions, 5 voice-chat sessions) were counted and analyzed using chi-square with alpha set at .05. Significant differences were found between the higher number of total repair moves made in voice chats and the smaller number in text chats. Qualitative data analysis showed that repair work in voice chats was often pronunciation-related. The study includes discussion that may affect teachers' and learners' considerations of the value of NNS chat room interaction for second language development, specifically speaking skills. The results highlight the importance of interaction through synchronous voice chats for correct pronunciation of English in NNSs and Jepson considers voice chat superior to text in this matter.

Other empirical studies of online and chat interaction, for example by Gass and Mackey (2006), also establish the importance of studying learners' interaction. In the context of Arabia where the introduction of CMC technology is a recent phenomenon, more work is therefore needed to see what type of interaction helps achieve students' collaboration. The relative lack of research in this area motivated the present study into

Arabic students' written synchronous and asynchronous CMC interactions in order to find how this medium was utilised to carry out tasks set in a blended academic writing course.

In the previous paragraphs I have suggested that collaborative social interaction is not automatically induced by the provision of technology alone, as careful choice of tool and monitoring and feedback by the instructor is required for enhanced social interaction. In addition, Vance et al. (1997) recommend training the learners for effective collaboration to take place. Vance et al. (1997) affirm the positive effects of CMC in fostering collaborative activities of ESL students among themselves and between students and teachers. Using such qualitative data as group journals, audio and video-taped observations, interviews and on-going recording of the students' and teachers' responses to CMC, the researcher-teachers tapped its usefulness in learning and teaching. Vance et al. (1997) recommend that the learners should be provided with proper training for using CMC for collaboration and teamwork to take place effectively. They further recommend that teachers and curriculum designers use online and personal journals, interviews, and observation to evaluate how effective CMC is in helping students and why it is so.

Similarly, for effective collaboration to take place, the instructors need particular skills and training. Hampel (2009) has highlighted the need to train teachers in order to enhance online interaction and collaboration. She argues that "a more learner-centred approach requires the ability on part of the teacher to provide a setting in which learners can develop the socioaffective, sociocognitive and organisational skills that are prerequisites of collaboration. This can be facilitated by appropriate tasks, moderation and feedback" (p. 47). Similarly, realising the importance of training instructors in CMC, Kessler & Bikowski (2011) describe the importance of SLA training for pre-service teachers, paying special attention to key concepts and research findings from a variety of

SLA approaches and their integration into computer-mediated curricular materials. The SLA course which they describe emphasized the interaction approach, among other traditions, and included the use of Gass & Selinker's (2008) SLA introductory volume. The Computer Assisted Language Learning (CALL) course which was offered in the following term began with Egbert et al.'s (2007) eight "optimal conditions" for SLA, which was used to present a practice-oriented distillation of core SLA principles. The participants in the CALL course designed technology-mediated curricula and then used the eight 'optimal conditions' as an evaluation rubric. Results of a survey of the CALL course participants indicated that the SLA informed evaluation rubric helped the teachers in preparation to make informed decisions regarding the design of CALL activity types and tasks.

One should remember that collaboration among students and its effects are not only associated with CMC. Research on collaboration and its effects started much earlier than the advent of computer technologies. For example Webb & Mastergeorge (2003) draw on examples from research on student learning in collaborative mathematics classrooms in a US middle school to highlight the benefits of face-to-face collaboration. In this paper, they focused on how students' helping behaviour within small groups influences student learning, specifically the exchange of explanations about the content being learned. They identified student behaviours that were necessary for effective help seeking and help giving, as well as responsibilities of teachers in establishing classroom conditions that bring about effective helping behaviour. The findings show that effective help seekers ask precise questions, persist in seeking help, and apply the explanations received; effective help givers provide detailed explanations of the material as well as opportunities for help recipients to apply the help received, and monitor student understanding. This study is relevant to my research in terms of discourse functions in

that it explicates why the discourse function of explaining is so vital in promoting effective collaboration and showing how it takes place.

In the section above I have presented studies that have pointed out both the benefits and the limitations of CMC in relation to promoting collaboration among learners. In addition the last study by Webb & Mastergeorge (2003) was discussed to pinpoint aspects of interactions that reveal how collaboration can be traced in a learning environment. Though both Wang and Vance et al. view CMC as conducive to promoting collaboration, they also recommend that the effectiveness of CMC depends on active monitoring and positive feedback by the teacher (Wang 2010) and proper training for using CMC (Vance et al. 1997).

2.3.2 CMC and foreign/second language learning

This section explores research into the use of computer-mediated communication in second or foreign language learning. I discuss these studies here because they highlight research into language learning with a focus on the social, interactional and/or collaborative benefits. There appears to be a consensus that more research focusing on collaboration and interaction is needed in diverse educational online settings (e.g. Hampel 2009). Since such research is still sparse in the Arabian context, my study is an effort to expand existing research in this relatively new and developing field of technology enhanced language learning.

CMC tools are regarded as providing extended instructional opportunities to complement live foreign language classes. Meskill & Anthony (2005) suggest that “such instructional conversations, those that guide learner attention to and production of the

target language, are well accommodated by the features of CMC environments and thereby make instructional CMC a promising tool in foreign language education" (p. 102). CMC has also been shown to engage Spanish students in collaboration and help maintain motivation (Blake 2005). Blake highlights that written language is the primary mode of instruction in distance language learning courses. In terms of the development of interactive competence, Kötter et al. (1999) note that foreign language learners received substantial collaborative support from peers interacting in the target language and became aware of the gaps in their current level of competence in the foreign language. In addition, Tudini (2003) found that learners in her study through virtual chatting with native speakers received 'an authentic and purposeful cross-cultural experience which is otherwise limited to the language teacher, members of the local community or other learners' (Tudini 2003, p. 157). Hampel & Hauck (2004) also suggest that "recent developments in audio graphic conferencing can now complement written CMC by offering the possibility of going a step further and supporting oral language acquisition as well" (p. 67). Moreover, CMC can also be seen as an efficient tool that provides more time for speaking practice, especially in crowded or teacher-oriented classrooms. In such a context in a Korean English class, Cheon (2003) reported the importance of synchronous CMC (SCMC) activities, during which individual language learners received more speaking turns than they would in the face-to-face class. Similarly, "the actual time people are speaking in the target language" could be increased if the amount of pair work activities in audio conferencing is increased (Hampel & Hauck 2004, p. 75), thereby compensating for the lack of practice time in face-to-face situations.

Fitze (2006) compared face-to face and written electronic conferences in terms of textual features and participation. Despite the fact that the amount of language production was not significantly different between the two groups, learners "were better

able to use and practice a wider range of vocabulary related to the topics” (p. 67) in the written electronic conferences.

Mertzani (2011) examines the principles of CALL using a specific tool, the Sign Lab in British Sign Language (BSL) learning, and the implementation of CALL in sign language instruction. The results indicated that the students and their teaching assistants considered Sign Lab of great value for practising both receptive and expressive skills of the target language. Moreover, the participants commented in the interviews that interaction did help them learn the target forms of BSL. The results also show that students perceived increased autonomy and managed their own learning by negotiating either with their peers or with their teaching assistants.

White (2006) has pointed out that research on the affordances of CMC for interaction and collaboration has started to influence practice and feels that “The ideal of the independent language learner remains an important conceptual marker in the field, but it is being rapidly replaced by the ideal of a collaborative learning community where learners find support for and develop control of their learning in interactions and exchanges with peers, learners, teachers and native speakers” (p. 260).

A comparative study by Abrams (2001) suggests that synchronous CMC provides a more liberating environment than offline situations to expand foreign language learners’ repertoires. The study explored two different writing environments: synchronous computer-mediated-communication (CMC) and pencil-and-paper group journals. Abrams conducted this study to determine the various roles that foreign language learners adopt in a foreign (German) language classroom. Learners’ (N=47) interaction data were coded based on categories used in previous research in discourse analysis, social psychology and sociology. Results identified some roles that were common in both writing contexts:

speaker, respondent, scolder and creator of in-group identity. Others – attacker, challenger, supporter and joker – were specific to the CMC context alone. Furthermore these specific roles were more interactively negotiated in a CMC environment. Abrams attributes this to the immediacy of CMC, its perceived fleeting nature, and anonymity resulting in “flaming” and increased risk-taking. This implies that CMC provides a more liberating atmosphere to learners where they are less self-conscious and participate more freely than in the face-to-face classroom, thereby highlighting the social interactional advantages and disadvantages of incorporating CMC in foreign language learning.

Similarly Zeng & Takatsuka (2009) report the social advantages of CMC in the form of improved language learning and students supporting one another by attending to language forms through collaborative dialogue. Studying EFL learners’ dialogues (actually written interaction through online chat) in synchronous task-based CMC, they focused on whether the learners engage with each other in text-based dialogues regarding their language use in pursuit of the task goal in the CMC context and how their mutual engagement impacts on their language learning. The participants, 16 Chinese tertiary level students, were randomly assigned to eight pairs and required to complete four collaborative tasks via Moodle, a learning management system. The dialogues were analyzed using Language-Related Episode (LRE) – a software – as a research tool. The data analyzed included recorded online chat logs, a post-task survey that elicited the learners’ perspectives on the online collaborative learning and two individualized post-tests (immediate and delayed). The findings revealed enhanced language learning and learners assisting each other in attending to language forms through collaborative dialogue.

In the above section I presented studies which highlight the potential interactional and collaborative benefits of online interaction. In the next section I will give examples

from studies that show various benefits associated with teaching writing in an environment using CMC tools because my research also focused on a community of learners using CMC in an academic writing class. I will show that although much literature is available to demonstrate the benefits of using various CMC tools, the focus is more on cognition and less on other individual and social benefits like increased learners' confidence, interaction, participation and collaboration.

2.3.3 Effects of CMC on second language writing

Before I start to discuss studies under this title, I would like to make a clarification. It may be asked how the studies covered in this section are different from the ones on academic literacy given in the following section (Section 2.3.4), since it is research on the students' writing that informs whether or not academic literacy is taking place. I have made this distinction on the grounds that studies in this section look at writing as a skill in itself, whereas studies included in the academic literacies section explicitly linked progress in writing to academic literacy because of the researchers' specific stance. A large number of studies have been conducted for exploring the area of Computer Assisted Language Learning (CALL) (e.g. Dunkell 1991; Higgins 1983; Lee 2000; Levy 1997; Warschauer 1996). However, to date, there have been fewer empirical studies conducted to determine the effectiveness of CMC tools on ELL (English Language Learners in a native English speaking country) or EFL writing. What research there is into the impact of using CMC tools on students' writing has tended to focus on the socio-constructive theory of cognition and, to a lesser extent, the psychological benefits, showing that CMC can encourage students to use more complex sentences and reduce their anxiety (Warschauer & Kern 2000). Somewhat less attention, however, has been paid to the potential collaborative and interactional benefits of CMC. In line with a social constructivist view (Bakar et al. 2010;

Fosnot 1996; Gonzalez 2003; Liu et al. 2001; Stage & Muller 1998; Watts-Taffe & Truscott 2000), I argue in this section for the significance of the social benefits and the need for more research exploring how writing practices can be improved through the opportunities for interaction and collaboration provided by CMC.

Studies exploring the cognitive benefits of CMC for students' writing tend overall to conclude that students gain more skills in critical reflection (e.g. Weasenforth & Meloni 2002). In terms of syntactic complexity, the delayed nature of asynchronous discussions gives learners more opportunities to produce syntactically complex language. Learners used more subordinate and embedded subordinate clauses in their writing (Sotillo 2000), and appropriated a variety of language practices such as using complex clauses correctly and using correct sequence connectors (Chung et al. 2005). Moreover, students participated in expert (by providing peers corrective feedback) and novice (by seeking peers' advice) discursive practices in the construction of meaning (Weasenforth & Meloni 2002; Chung et al. 2005; Quinn 2011). However, although such studies are useful in highlighting how the writing process can be facilitated through the affordances of CMC – the asynchronicity in particular – they do not show how students can gain further knowledge about writing through the interactional benefits associated with CMC such as increased collaboration and coordination, enhanced motivation and self-confidence and decreased anxiety, in addition to providing a more student centred environment.

The cognitive benefits of the collaborative writing environment in the ESL/EFL contexts have been investigated by some other researchers too. Storch (2005) investigated the nature of collaboration when students produce a jointly written text. The study highlights the cognitive benefits of collaborative writing through intertextuality – understood as the feedback that feeds into students' revised drafts – that was achieved

by students writing in pairs. The researcher compared the texts produced by pairs with those produced by individual learners and investigated the nature of the writing processes evident in the audio-taped pair talk. Although the number of individual learners (3) was not sufficient to validate the results more convincingly, the study produced interesting points for future research. It may be presumed that the researcher had no choice as only three participants opted to work individually and the rest (20) preferred to work jointly. Both quantitative and qualitative measures were used to analyze the texts completed by the students. The results indicated that pairs produced shorter but better texts in terms of grammatical accuracy, complexity and task fulfilment. Moreover, collaboration provided students with the opportunity to pool ideas and exchange feedback. Most students were positive about the experience, although some did express some reservations about collaborative writing in terms of disagreement on the issues of form and content among collaborating writers.

In another cognition-focused study Liou & Peng (2009) show the effects of training on peer feedback. They looked at the advantages of training provided to learners to conduct effective peer feedback and researched the interactive functions of weblogs to facilitate computer-mediated peer reviews for collaborative writing. Their case study was conducted to examine the training effects of peer reviews on students' peer comments, the quality of their revisions, and their perceptions when composing in weblogs. The participants were thirteen freshmen students of an EFL writing class who had to write four assignments in weblogs. They were given peer review training in the second and third assignments. Comparisons between reviews without and with training (i.e., the first and the fourth assignments) indicate that the students made more revision-oriented peer comments and had more success in revising their compositions, although they adopted less than 50% of the comments for revision. The students' perception data show that

blog-enhanced instruction stimulated their interest in improving their writing. However, not all of the participants felt confident about providing useful peer feedback. They concluded that blogs could serve as a suitable platform for EFL writing instruction about giving opportunities for interaction. Since training is essential to make computer-mediated peer review effective, the study supports the crucial role played by language teachers when incorporating internet technology into writing instruction.

In the final cognitive study to be explored here, Bacabac (2008) investigated two online practices, the use of synchronous chat and asynchronous discussion boards, for composing a research-based essay, delving into the proposition that collaborative CMC forums such as synchronous chat and asynchronous discussion boards can foster cognitive constructivism. Two first-year writing classes taught in a computer laboratory by the same instructor participated in the study. One class used Chat and the other used the discussion board prior to drafting the essays. The researcher, manipulating a descriptive research design, sought to examine the relationships between these two types of collaborative online strategies and students' academic writing. She used both qualitative and quantitative data collection techniques to glean information about (1) student performance as reflected by discourse and language use in online discussion transcripts and written essays and (2) perceptions and attitudes of participants toward online chat and discussion boards. Findings revealed that both chat (synchronous) and discussion boards (asynchronous) had an impact on producing the successful transfer of ideas in terms of essay topic, purpose, and thesis statement and an average transfer of main ideas and supporting details. In this study Bacabac (2008) did not show differences or similarities between the synchronous or asynchronous interactions, rather she showed that both were equally effective in promoting collaboration among learners.

In terms of the psychological benefits, as mentioned above, studies tend to report that CMC works to reduce anxiety and increase motivation, although on the whole they are not able to make explicit the link between enhanced emotional states and improved writing. Alias & Hussin (2002), for example, conducted a quantitative study to investigate the degree of helpfulness of e-learning activities in students' writing processes. They used two questionnaires and one logbook to collect data from twenty college students enrolled in an EFL writing course selected on a stratified sample. The questionnaire was administered at the end of every session and the logbooks containing student records of their online activities were also collected at the end of each session. In addition, an attitude survey was administered at the beginning and end of the program to investigate the changes in the students' emotional level. The findings reveal that email and online discussion raised the students' motivation and confidence and reduced their anxiety level. These reported psychological benefits implicitly relate to the interpersonal benefits but the researchers have not highlighted that aspect.

Although Alias & Hussin (2002) used a small sample size (only 20 participants), suggesting that it may not be adequate to generalize the finding of this study to other populations, other studies reach similar conclusions. For example, Weasenforth & Meloni (2002) also highlight the psychological benefits of CMC in their study in which 52 international students from advanced-level ESL reading/writing classes participated in this qualitative study for three consecutive semesters. The findings of the study indicate that the technology addressed factors such as reducing threatening feelings and enhancing motivation. Similarly, using a mixed method design, Greenfield (2003) conducted a study to gauge secondary ESL students' perceptions of a collaborative email exchange between a tenth grade ESL class in Hong Kong and an eleventh grade English class in Iowa for a period of twelve weeks. Greenfield reported that the majority of Hong Kong students

enjoyed the online interaction through email, gained general confidence in English and computer skills by interacting with native speakers, and felt that they made significant progress in writing, thinking, and speaking. However, while these studies are useful in highlighting the potential importance of students' psychological states, they do not go on to show an explicit link between the reduction in anxiety and any improvement in students' writing. What they inadvertently do is highlight the importance of interaction in improving confidence and motivation – that is, that the opportunity to interact with peers in a non-threatening environment is a key factor in reducing anxiety – and it is to this rather under-researched benefit that I now turn.

As mentioned above, few studies explicitly focus on the social benefits of CMC tools for the promotion of interaction and collaboration among students of academic writing. Those that do tend to use mixed methods by combining quantitative and qualitative design. Kern (1995) examined the use of Daedalus InterChange, a local area computer network application, to facilitate communicative language use through synchronous, written classroom interaction. This study compares the quality and characteristics of the discourse produced by two groups of 40 students in total during an Inter Change session and during an oral class discussion on the same topic. Three types of data were collected including scripts of students' writing, transcriptions of students' oral discussion, and students' and teachers' responses to a questionnaire regarding their impressions of using InterChange. The main benefits were as follows. There were more student-to-student interactions –that is, students took more turns, produced more sentences, and used a greater variety of discourse functions when working in Inter Change compared to the oral discussions – and this resulted in more peer learning, reducing students' reliance on the instructor. Students who were often reluctant to participate in oral discussions participated more actively in InterChange (online)

discussions. This may in part be because a majority of students found that the networked computer environment was motivating and that it reduced their communication anxiety. Therefore this study confirms the benefits of using CMC tools for enhancing interaction and collaboration. Students who were often reluctant to participate in oral discussions participated more actively in InterChange (online) discussions.

Another study that reached similar conclusions about the benefits of using CMC synchronous and asynchronous tools by Sotillo (2000) investigated discourse functions and syntactic complexity in ESL learner interactions obtained via two different modes of CMC: asynchronous and synchronous discussions. Two instructors and 25 students from two advanced ESL writing classes participated in this study. The results of this mixed method study showed that the quantity and types of discourse functions present in synchronous discussions were similar to the ESL face-to-face conversations. Synchronous discussion was highly interactive and student centred. Students produced more informal electronic text (very close to natural speech) and utilized greater variety of discourse functions while exchanging ideas and information with their classmates in synchronous discussions than when posting to the asynchronous discussion forum. Synchronous interaction focused on meaning/content between and among students. On the other hand, discourse functions in asynchronous forums were similar to the traditional language class discourse format of question-response-evaluation. This study was able to show that synchronous forums provided an environment for the students in which they were less formal, used a variety of discourse functions that were similar to natural speech and were more independent in directing the course of their discussion than in the asynchronous discussions, which were more instructor-centred. However, like other studies focusing on the social benefits of CMC for students' writing, the limitations of this work is that it only looked at the discourse functions to reach such conclusion. Other

methods like studying the process of peer feedback and its effects on students' writing of their first and final drafts could be utilised, in addition to shedding light on the role of students' attitudes and perceptions about the affordances of CMC to foster collaboration, reducing anxiety, increasing self-confidence and collaboration and learner centeredness in order to present a comprehensive view of the benefits of CMC in developing students' academic literacy. So there is a clear gap which I hope to fill with the help of my study.

In this section, I have shown how, through a CMC environment, including synchronous and asynchronous forums, email, and web-conferencing tools, students benefit cognitively, socially, and psychologically. However, in particular, I have argued that what is needed is research that focuses not only on the cognitive or psychological benefits, but also on the collaborative aspects – that is, on the effect of interaction between peers – because in online collaborative learning, the process of building knowledge and the process of idea-sharing and feedback among collaborating members is considered to be of great value for the joint construction of knowledge (Warschauer 1997). My study addresses this gap by looking specifically at how students engage in online activities, what discourse functions they use and how peer feedback is conducted online and incorporated into students' writing.

2.3.4 CMC and academic literacy

In this section, I turn to review some studies that explore the role of CMC tools in developing academic literacies in various disciplinary writing courses for academic purposes. This section is useful in highlighting how an academic writing community is actually divided into different disciplines. A review of research on disciplinary writing (here referring to writing in other disciplines like history, law etc) may provide further

insights into the effectiveness of CMC in promoting academic literacy and collaboration in such advanced and formal writing contexts.

The section starts with a study by Warschauer (1999) as evidence to show that there is research to suggest the social benefits of CMC. Warschauer reported 15 cases of graduate students from various countries enrolled in the Writing for Foreign Graduate Students course for the purpose of being integrated into their academic life in their disciplines while studying in USA. Students were engaged through various forms of CMC like email, synchronous chat, discussion board, Listserv and home page and were required to write academic papers in their own disciplines. Warschauer reported that the use of the computer as a medium matches up with a tutor-tutee model of apprenticeship, a collaborative model of apprenticeship learning between students, and a peripheral participation model of apprenticeship as propounded by Lave & Wenger (1991). Warschauer presents cases of Miyako and Zhong as examples of tutor-tutee model. Miyako, a first year M.A. student, for the most part learnt the academic writing process in the United States. She regularly communicated through sending emails to the instructor and peers raising her questions, doubts and concerns about academic life in the US. For students like Miyako, inclusion of CMC tools helped them to actively engage with their teachers and peers, that is their disciplinary discourse community. A differing case from that of Miyako, using CMC tools benefited Zhong, an established writer in his discipline, through his individualized contact with the teacher via electronic communication. Bearing his real world questions in mind, he protected his own academic rights, and at the same time, kept a positive relationship with his remote peers. Warschauer shows that not only did CMC tools provide more opportunities for teacher-student interaction but they also enhanced collaborative learning among students. A comparison of samples of face-to-face discussion and online synchronous discussion indicate that the teacher's role in

online discussion is decentralized. Instead, student-centred discussion becomes the norm. Students' entries into their discourse communities were facilitated through various activities of peripheral participation—participating in simple and low-risk tasks that are helpful and indispensable and further the goals of the community—such as talking to the professor and fellow graduate students and reading journal articles as well. So Warschauer concludes that CMC could serve as a productive medium for peripheral participation.

The role of computer conferencing in the development of students' disciplinary knowledge was reported in another study by Lea (2001). Exploiting an ethnographic approach, Lea's data consisted of online discussion entries, copies of marked assignments with tutor comments and feedback, email responses to tutor's semi-structured questions from seven participants and telephone interviews with all participants located in different countries. The focus of her analysis was intertextuality in order to see whether the texts of the computer conferences were reflected in the texts of students' written assignments. The results showed that asynchronous computer conferencing provided extended chances of collaborative learning among students along with opportunities for learners to reflect on their own and peers' academic arguments. Students also drew upon their peers' writing in the construction of their own disciplinary knowledge in which texts from computer conferencing were reflected in the students' writing assignments. Lea (2001) also pointed out the efficacy of CMC tools in changing peers' role from being passive to assuming authoritative status in the class. So this study implicitly endorses the social benefits of CMC.

Lindblom-Ylänne & Pihlajamäki (2003) examine whether a CMC environment enhances essay writing of law students by providing an opportunity to share drafts with

fellow students and receive feedback from a draft version. Twenty-five law students participated in this qualitative study. Data for this study were collected from interviews with both students and teachers. The results showed that the students deepened their understanding, elaborated their own ideas, improved critical and independent skills, and developed self-regulative skills. Additionally, the active use of a CMC environment was related to good essay grades.

The three studies described above show that CMC tools facilitated the process of students' disciplinary knowledge development in discipline specific writing contexts through promoting either student-teacher or student-student collaboration. There were social benefits in terms of increased participation and sharing which led to improved critical and independent skills in using the CMC tools.

The final study included in this section was conducted by Cheng (2007) tapping into the role of CMC tools in non-native speakers' acquisition of academic literacy. The researcher examined how a group of ESL students studying Applied Linguistics attempted the acquisition of academic literacy in this course by completing a series of assignments they were required to complete as teacher trainees. This study applied a case study methodology, with the purpose of understanding the complex phenomenon of academic writing activities as experienced by NNS participants enrolled in a course in the field of applied linguistics. The researcher gleaned his data from eight sources: observations, questionnaires, online discussion entries, online peer feedback, students' major assignments, source materials, interviews and discourse-based interviews, all of which were analysed qualitatively and quantitatively, utilising a variety of methods and statistical schemes. Findings indicated that the participants in the study used various language functions (such as questioning, explaining, advising, supporting and confirming

etc and quite similar to my discourse functions) in their negotiation of academic literacy with their peers in the online discussion. They also manipulated multiple intertextual techniques (like revising, rewriting and editing as suggested by peers) in the online discussion, whereas only a few such techniques were used in face-to-face class discussions. Finally, the study indicated that computer-mediated communication facilitated students' understanding of tasks, performance of writing activities and the correct application of citation conventions. The study bore reliable testimony in favour of CMC in fostering and facilitating the acquisition of academic literacies. Cheng did not consider whether collaboration and sharing was important in achieving these results with students, but her study informed my research as to the design, analysis methods and implications of the favourable findings of CMC and its affordances in improving and promoting academic literacy skills in disciplinary courses. In addition to what Cheng did, I will be looking at the collaborative and interactional benefits (feeling of improvement and fulfilment for task completion, decreased anxiety, and possibility of enhanced participation in a setting less intimidating than face-to-face due to the anonymity of the medium, fewer chances of code switching and increased collaboration) of CMC and the students' perceptions and attitudes towards its use in addition to or in support of classroom instruction.

2.3.5 CMC and learners' attitudes

In this last section of the literature review section, I will present some studies that have tackled the issue of learners' attitudes towards the use of CMC tools in various contexts as it is a general belief that learners' affective behaviour and attitudes are significant for the success or failure of any educational innovation. In particular I will show what types of benefits are associated with the affordances of CMC according to students' perceptions.

The measurement of attitudes has traditionally been associated with a rather fixed view of individual attributes. The attitudes I want to measure are to some extent flexible and socially constructed because I was looking at students' reported attitudes in one moment in time. This was still useful for my research because I wanted to establish whether there was a connection between their attitudes and their actual performance.

As suggested by most researchers, understanding learners' attitudes toward Web-based collaborative learning is a crucial issue in enhancing learning effects. Studies of students' attitudes are useful in highlighting how their attitudes towards CMC affect their cognitive and social performance. Although students' attitudes toward learning, motivation and collaboration, have been shown to improve when students engage in interactive computer settings (Beauvois 1998; Warschauer et al. 1996), not many studies reveal either the students' awareness of or the researchers' focus on the benefits associated with such collaboration. Most studies show how students' positive attitudes help them to become active learners using the CMC tools. In addition, I will also present two studies that reveal that learners' attitudes towards technology are not always that encouraging and even when the students are adept in technology use, they may not exploit the opportunity to the fullest as expected by teachers or instructors.

Cognitive benefits are focused on by Fang (2010), who aimed to investigate the perceptions of a computer-assisted writing program among EFL learners in a college composition class. A mixed method research design was employed combining both qualitative and quantitative techniques. 45 junior students in a Taiwanese college writing class were introduced to the computer-assisted writing program *MyAccess*. After using the program in class, students completed a survey questionnaire and nine students were selected for follow-up interviews based on their writing proficiency. Survey results

showed that the majority of the students held favourable attitudes towards using *MyAccess* as a writing tool, but were less positive concerning its use as an essay grading tool. Evidence obtained from a multiple choice question in the survey showed that a majority of the students felt that they benefited by using the computer-mediated feedback to revise their essays. Moreover, interview data revealed that students felt that the computer-mediated feedback had a positive effect on writing skill development, particularly in suggesting changes in form rather than in content. Finally, eight of the nine interview participants suggested that *MyAccess* could be utilized in future writing classes.

Similarly Liaw et al. (2008) focus in their research on the learners' positive attitudes toward Web-based collaborative learning and the cognitive advantages. They examined the results of factor analysis of five attitude factors (system functions, system satisfaction, collaborative activities, learners' characteristics, and system acceptance) in a Web-based collaborative learning system. Data was collected through questionnaires from students (N=133) who used the system to learn and share medical informatics related knowledge. Statistical analysis of the questionnaire data suggests that improving the system's quality of collaborative learning environments may increase learners' cognitive perceptions and that highly cognitive perceptions may enrich learners' intentions to use Web-based collaborative learning systems. Implicit in these findings are the social benefits in the increased collaboration, which enhances learners' cognitive perceptions. However, the researchers have not highlighted this.

Studies also reveal that learners' attitude towards technology are not always that encouraging and even when the students are adept in technology use, they may not exploit the opportunity to the fullest as expected by teachers or instructors. Ayres (2002) examined student attitudes towards the use of computer-assisted language learning

(CALL), and their perceived view of its relevance to their course of study. Ayres (2002) reported a vital link between the perceived usefulness of CALL, and the student's level of computer literacy, language level and age. The questionnaire data was collected from 157 participants and was analyzed using SPSS. Major findings included that while learners see it as an important and extremely useful aspect of their studies, they did not consider it as a worthwhile replacement for classroom-based learning. Learners felt that CALL helped them especially in the areas of spelling, writing and grammar practice and CALL work needs to be linked closely to the course curriculum. Learners, despite its high appeal, view it as enhancing, not replacing, their classroom-based instruction. Ayres' study, therefore, shows that students do perceive some cognitive benefits of CMC tools, but consider the role of classroom teaching as irreplaceable with an environment totally delivered via CMC tools. Ayres sees this as indicating that the learners perceived no social benefit of CMC tools. A similar study by Gal & Lupo (2002) on the integration of the Web as a channel of communication and a study tool in traditional distance teaching of Computer Science (CS) —indicated that CMC tools may only be utilized only when face-to-face learning is not available, since the learners perceived that face-to-face teaching has no alternative (Gal & Lupo 2002). The study also revealed that when the use of the Web is voluntary, students, even those who are advanced in their studies and are experienced in using computers and the Internet, do not take full advantage of it. The results, however, do show that the use of the Web increases as students advance in their studies, but even in this case the Web is not used as much as it could be. It can be implied from the results that students often prefer teacher lectures to peer intervention, and so may not value peer interaction online. This also seems to suggest that students pay little attention to the social benefits associated with the Web as a channel of communication.

Finally the study to be outlined here, research by Sullivan & Pratt (1996) serves as an illustration that there is research that points out the social benefits perceived by students in their study. They compared students in two ESL writing environments: a networked computer-assisted classroom and a traditional oral classroom. To examine attitudes towards writing with computers, writing apprehension, and writing quality, three measures were used for quantitative analysis. In addition, data from transcripts (computer-assisted class) and audio/videotapes (oral class) of large group discussions and peer response groups were evaluated for qualitative differences. Quantitative analysis did not show any difference between the students' attitudes towards writing with computers or writing apprehension in the two environments. Nevertheless, in the qualitative analysis, significant at the 0.08 probability level, writing quality did improve in the computer-assisted classroom. Qualitative analysis of the data also indicated that types/patterns of discourse in the two writing environments were clearly different: the role of the teacher was minimized in the computer assisted classroom's discussions—compared to that of the oral classroom. The comments made in the computer-assisted classroom were more focused. On the other hand, the comments in the oral classroom were more numerous. The researchers, however, did not elaborate as to why there were discrepancies between the qualitative and quantitative findings.

In the forgoing discussion on students' attitudes vis-à-vis CMC affordances, I presented studies that exemplify both students' positive and negative attitudes towards computer-mediated communication in various learning environments. The studies showed that social benefits in terms of increased interaction and collaboration are the least reported ones in research, either in terms of student perceptions or in terms of researcher focus. Having brought forth the need for research with interactional and collaborative bearings, in my research I will look into the relationship of the students'

attitudes towards sharing, participation and collaboration in the collective meaning process through their interaction and what their perceptions are about developing academic writing proficiency through the collaborative environment afforded by CMC tools. This issue has been addressed in the main study through the third research question: What are students' attitudes towards collaboration through CMC?

2.4 Conclusion

In the above literature review, I presented studies that look at the affordances of CMC in various pedagogic contexts like EFL, ESL, disciplinary writing, academic writing and foreign language learning to report both the merits and the limitations of its use. I went on to suggest how through CMC students benefit cognitively, socially, and psychologically. In particular, I have argued that what is needed is research that focuses not only on the cognitive or psychological benefits, but also on the collaborative and interactive aspects realised through both synchronous and asynchronous interaction afforded by CMC. That is why the current study addresses this gap by looking specifically at how peer feedback is conducted online and incorporated into students' writing. In order to see the effectiveness of synchronous and asynchronous CMC in promoting interaction and communication which generates learning, I presented a review of studies that show the impact of CMC on learners' interaction and collaboration. The issue thrown up in that part was that although CMC is conducive to promoting learners' interaction and collaboration, the effectiveness of this collaboration for learning depends on active monitoring and positive feedback by the teacher and proper training for using CMC. This is an issue that will be addressed by one of my research question on learners' perceptions about the effectiveness of CMC for peer review and collaboration.

To have a full picture of the research scenario in all the overlapping fields of my research, I also reviewed studies that reveal the facilitating role of various CMC tools in second/foreign language in general and EFL writing in particular. In both cases the studies discussed mostly brought out the cognitive, psychological or emotional advantages of CMC tools. For this reason, I have argued that researchers need to focus more on the collaborative aspects of interaction achieved through CMC tools. Therefore, in my research I planned to study the EFL academic writing domain from an interactional and collaborative perspective, with a view to exploring how synchronous and asynchronous CMC might foster sharing and cooperation among learners through peer feedback. Therefore, my research adds to the research literature on interaction and collaboration in foreign language learning, which, as pointed out earlier, needs to be further investigated.

I have also reviewed some studies that explore the role of various CMC affordances in various disciplinary writing courses for academic purposes from the academic literacies perspective. The studies revealed how various CMC tools facilitated students' initiation into their discourse communities, how CMC provided further opportunities for teacher-student interaction, enhanced collaboration among students and promoted student-centred discussions. The studies further indicated that computer-mediated communication facilitated students' understanding of tasks, performance of writing activities and the correct application of citation conventions. In short, these studies bore reliable testimony in favour of the potential of CMC tools to foster and facilitate the acquisition of academic literacies.

A review of studies focusing on learners' attitudes towards CMC revealed that although such studies are useful in highlighting how learners' attitudes towards CMC affect their cognitive, social and psychological performance, not many take into

consideration the collaborative and interactional aspects of its effectiveness. As pointed out in the discussion, this is because either the researchers did not specifically take an approach which would have acknowledged the importance of factors of interaction and collaboration in learning and development or because the students could not relate any such advantages to CMC. Hence, there is a gap in the literature on this vital issue, which is one of my study's main concerns.

To conclude, I have highlighted the specific areas relevant to my research, which are still evolving, especially in the field of EFL academic writing and the collaborative benefits of CMC. There is, to my knowledge, not enough research on the role of CMC tools in promoting EFL academic writing in an Arabic speaking context. Both EFL learners and teachers have to be aware of and understand that academic writers, as a discourse community, have their peculiar skills and knowledge and social contexts. The purpose of this study, therefore, was to provide an analysis of textual and interactional data produced through EFL learners' use of CMC tools in a specific academic writing context where they were trying to acquire academic literacy, and gain competence in the process of writing and the discourse of academic writing. The study considered how they perceived the role of CMC tools in this collaborative learning process. In addition, the study also looked at learners' attitudes towards the use of technology in their learning environment and the benefits or disadvantages of such collaboration.

Chapter 3

Research methods

3.1 Overview

This chapter describes the research methods and procedures that were used in this study. It begins with a description of the research setting and the participants of the study. This is followed by a description of the research data collection tools and procedures for data collection. Finally, the research analysis design and a rationale for using a mixed methods approach are elaborated. The chapter ends with the ethical issues arising from the field study. The research questions are given below:

1. How do participants (EFL learners in a Saudi undergraduate college) use CMC to negotiate academic literacy with peers?
 - a. What discourse functions do participants use when they are engaged in online discussions?
 - b. Are there differences in the use of discourse functions in synchronous and asynchronous writing?
2. How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?
 - a. How does peer feedback provided via CMC tools influence EFL learners' completion of their assignments?
 - b. How do students perceive the role of feedback provided via CMC tools in producing their final drafts?
3. What are students' attitudes towards the collaborative writing process through CMC?

3.2 Research setting

In the following section various details of the research setting are presented to give the readers an overview of the actual pedagogic and assessment practices along with the role of both teachers and students as the participants of this study.

3.2.1 The course

The English 217 (Writing IV) is a three credit-hour (class time per week) academic course that is compulsory for all students of the English Department, King Khalid University (KKU). It is designed to prepare students for academic writing skills. The requirement to enrol in the course is that the students must have passed the English 213 (Writing III) course. The following list of course objectives and skills that students are expected to acquire is provided by the department.

Course objectives:

- a. To enable students to achieve mastery of writing skills in English through an awareness of different types of essays (analytical, expository, informative, persuasive etc)
- b. To provide students with an introduction to writing research papers/essays for academic purpose.
- c. To train learners to acquire an error free writing style and equip them with an advanced knowledge of parallel structure, repetition, wordiness, paragraph unity and cohesion, run-ons, comma splices etc.

According to the course materials, by the end of the semester the student should be able to:

1. Write a detailed essay on any given topic.

2. Show command of complex grammatical structures.
3. Use writing ability to achieve the academic goals required of a university graduate.

3.2.2 The instructional tasks and the role of the teacher

The Writing IV course described above was a blended course. Blended courses in my university are of three types, ranging from 30%, 50%, and 75% online portions of course classroom time. For example a three credit hour course (the one that I was studying) which was 30% blended was required to be taught for two hours in face-to-face classes every week. For the remaining one hour, the teachers were required to decide the online contents. They had a certain amount of freedom in terms of the type of activities to engage learners in but they had to use activities that encouraged three types of interaction: content-learner, learner-learner, and instructor-learner. Content-learner interaction in the classes I investigated was carried out through students' reading from the online-resource site [Purdueonline](#) which is an online repository of resources on academic writing. The students were required to read certain topics related to form, content, layout, genre conventions, structure, language issues from the resource, in addition to the course book reading and then post their responses in the Writing Mechanics forum, usually by answering questions set on the topic for readings, posting queries if they were not clear about a certain issue they found difficult to comprehend and/or posting an answer to another student's queries. Learner-learner interaction was promoted through two other forums, the brainstorming forum and peer-feedback forum. All these forums were provided through the Blackboard® LMS Discussion Board tool. In the brainstorming forum, students were required to choose from a given list of essay topics and then post an outline of their initial ideas about the essay contents after

brainstorming. The teachers also urged them to post suggestions and/or advice to other students. In the Peer feedback forum students were required to post the first draft of their essays for peer-review, provide feedback to peers on their first draft, revise the first draft and post the final draft after reviewing it in the light of the feedback provided by the peers. Teacher-learner interaction took place in all the forums as the teacher was the designer, activity initiator and mediator of all the forums. The 6 Elluminate Live Sessions (synchronous) conducted through BB were used by the teacher to present some issue already lectured about in the class and to post questions for discussing them live in these sessions. These synchronous discussions were recorded and later analysed to trace various discourse functions.

The teachers provided scaffolding for all these pedagogic activities. They delivered lectures in the face-to-face classroom and asked the students to do further reading on the topic from the online resource. The students were then required to post their responses to the discussion questions posted by the teachers in online Writing Mechanics Forum. In addition if the students found any differences or new ideas on the Purdueonline resource (<https://owl.english.purdue.edu/>), they could bring it to the notice of the others. Usually the time for submission of an assignment was one week after the discussion was posted by the teacher. In the following week the teacher provided essay topics for brainstorming and the students posted an outline of their initial ideas. In the third week the students were required to write and post the first drafts of their essays and provide feedback to their peers. On the last day of the week they were required to submit the revised drafts of their essays after making revisions in the light of the peer feedback.

The instructors provided instructions in the face-to-face classes on how and when to participate in these forums. Net-etiquettes for online participation were also discussed

and negotiated. CMC via Blackboard® LMS was part of the course but not all the students' online participation was assessed for course evaluation. The assignments posted on the Blackboard® LMS were assessed and marked and they constituted 30% of the total term work assessment. The participation in both synchronous and asynchronous online forums was not part of the term work assessment, although participation in synchronous sessions was mandatory as it counted towards the attendance requirements to be fulfilled by every student. So the use of CMC was not always consistent by all the students. I chose the two most frequented asynchronous forums to discern language functions when students were engaged in the academic literacy activities through CMC. They were the forum for brainstorming and generating ideas for essay topics and the forum for peer feedback provided on the first drafts of students' essays. In addition, postings in the synchronous chat data from 6 one-hour sessions was also searched for discourse functions.

3.2.3 Assessment practices

The course assessment was done using the following division of 100% total marks.

1. 1st mid-term exam = 15%
2. 2nd mid-term exam = 15%
3. Quizzes = 5%
4. Final Examination = 35%
5. Blackboard® LMS activities = 30% (This constituted four written assignments (essays) per student)

Seventy percent of the course work was assessed through paper based written exams.

The remaining 30% were assigned to Blackboard® LMS activities.

3.2.3 Participants

The participants in this study were second-year students of the English Department, College of Languages and Translation, King Khalid University (KKU) in Abha and their instructors. All the participants were male, since coeducation does not exist in Saudi Arabia for religious reasons. The students were enrolled in two English 217 (Writing IV) classes (N=26 and 21) in the First Semester 2011 (August 2011- January 2012). Since it was difficult to code and analyse all the 47 students' online data and written assignments and also conduct interviews with them later, 10 participants were chosen from across the two classes along with their teachers to be the participants of this case study. The selection of these 10 participants was carried out on the basis of initial data analysis of the first part of the questionnaire (see Appendix A) that was distributed to all the students of the two sections during the first week of their academic term. Care was taken to include participants representing different educational backgrounds, and academic competence in order to make the group of ten participants as much representational as possible of the total 47 students.

As shown by the questionnaire (Appendix A) results, all the 10 participants had similar demographic and cultural backgrounds and were almost equally computer-literate, but had varied experience of EFL. They had all passed their higher secondary school exams and were in the 2nd year of undergraduate studies. However, 7 of them had about 8 years' experience of studying English—one year at the primary school, 6 years in the middle and secondary schools and over one year in the university, while three of them had all their schooling in local private English medium schools. Therefore these 3 students had over 13 years of exposure to English as a foreign language. The participants

were beginners in the field of academic writing and had limited understanding and experience of the writing requirements and conventions. But they seemed to be aware of the importance of reading literature and participation in different types of academic writing in order to succeed in the discipline. Computer competence of participants was almost the same. All the participants were adept in using the computer and Blackboard® LMS as they had been using this Learning Management System (LMS) for over a year now during their stay in the college undertaking various blended courses. The e-learning deanship provided training sessions to all university students.

One of the instructors (an Arab) who consented to participate in the study is well experienced (10 years teaching) and has a doctorate in Applied Linguistics. He had used the Blackboard® LMS for more than a year, that is, since its availability in the university. The second instructor (an Indian) is also well versed with the Blackboard® LMS. He is relatively younger and has a Master's in Applied Linguistics, with three years of teaching experience. Aware of my research work for the EdD, he actually volunteered to participate in this study in order to gain insights about the experience of CMC and its pedagogical influence.

3.3 Research design

Using a mixed method approach, my research follows a descriptive research design with the purpose of exploring how students negotiate academic literacy using two types of collaborative online modes: synchronous chat and asynchronous discussion board in relation to students' academic writing. Descriptive research design is an approach of observing participants in their peculiar surrounding and language, on their own terms (Kirk & Miller 1985, cited in Gall et al. 2003). Descriptive research entails "observation of phenomena and analysis of data with as little restructuring of the situation or

environment under scrutiny as possible” (Lauer & Asher 1988, p. 15). There is great demand in the literature for formal descriptive studies that move observations into coding and quantifying (Lauer & Asher 1988) to gain a holistic view of the various effects of computer-mediated and digital technologies on the writing processes and products of EFL students. At the heart of this study is the mixed methods approach in which both quantitative and qualitative data are gathered. Collecting such “diverse types of data best provides an understanding of a research problem. The study begins with a broad survey in order to generalize results to a population and then focuses, in a second phase, on detailed qualitative, open-ended interviews to collect detailed views from participants” (Creswell 2003, p. 21). Creswell (2003) also suggests that “the choice of which approach to use is based on the research problem, personal experiences, and the audiences for whom one seeks to write” (p. 23). In the context of my study in line with the research questions and the nature of my research being educational, I felt that the most appropriate method for my study is mixed methods in which, on the one hand I used qualitative measures like interviews and texts and on the other quantitative measure in the form of a survey to gauge the attitudes of the participants.

As descriptive research, this study investigated the transfer of ideas from synchronous and asynchronous interactions to student rough drafts, while using descriptive analyses and reports to gain insights into how the learners utilise the facilities of asynchronous discussion boards and synchronous chats for the development of academic writing processes. With this in view, students’ online interactions were coded and quantified into discourse functions and analysed to answer the first research question.

The research design also followed the interpretive tradition. This had two implications for my research. 1) My orientation was exploratory, as I endeavoured to explore and examine what is going on in the particular situations of the field study to understand the individual orientation of the learners who participated in this study; 2) The data was structured with the researcher exerting strenuous efforts to set aside his own prior assumptions. In this regard, Ellis (2001) suggests that interpretive research endeavours to understand how the social context works through participants' perspectives in terms of their natural surroundings. Ellis considers this tradition to be practical and valid when it passes the test of participant confirmation. One issue related to this aspect was thrown up in the pilot study. I claimed my research to be descriptive and interpretative in nature which does not manipulate the variables to be studied. Yet I was involved in planning the sessions and I specifically intervened to ask that students be given training in the technology before I started collecting data for the pilot study. This was so because I felt at the time of my pilot study that I would not be able to effectively analyse the variables unless the participants were properly trained in the technology under scrutiny. After two years the situation changed. By the time I was collecting data for the main study, most of the university students had gained experience in the use of Blackboard® LMS and were all well versed with the system. Therefore, the main study didn't have any such issue and I gathered, investigated, described and interpreted the data without manipulating the variables, with just one exception that I assisted one of the instructors to ensure CMC was built naturally into the pedagogy. I had to do that because he was new to the Blackboard® LMS learning management system in terms of effectively blending the regular face-to-face teaching and online contents of the course.

3.4. Data collection

3.4.1. Survey

The survey questionnaire (see Appendix A) consisted of three main parts: personal information, perceptions of the advantages and disadvantages of CMC, and experience of EFL writing skills and the use of computer/internet technology in EFL writing. As mentioned earlier the first part of the questionnaire, Personal Information, was collected during the first week of the term, while the remaining two parts were distributed and collected two weeks before the final exams. The first part was designed in order to determine students' demographic background, native language, language study experience, etc. with the aim of identifying important individual variables and targeting the primary participants in the case study. The second part was about learners' perceptions of the advantages and disadvantages of using CMC tools (through Blackboard® LMS) in their course work. The last part related to students' perceptions of their own writing skill proficiency as well as the effect of CMC on the attitudes of EFL students towards writing skill development, and their varying levels of experience in using Blackboard® LMS in various tasks. The questionnaire was administered in the classrooms in the presence of the class teachers as well as of the researcher. The participants were told by their respective teachers that they may ask for clarification in case they found some confusion in the survey questionnaire. This questionnaire along with interviews has been used to answer the third research question on learners' attitudes.

3.4.2 Interviews

Interviews in English were conducted with the participants the day after their final exam had been taken. Since it was difficult to conduct and analyse interviews with all the 47 students, 10 participants were chosen along with their teacher to be the primary

participants of this study (that is, they were the focus of the interviews and interactional data collection, while all 47 took part in the questionnaires). Semi structured interviews were administered to all 10 participants and the teachers to tap into their perceptions of the process of writing and acquisition of academic literacy and their experience of learning these through collaboration using CMC. During the recording of the interviews with the students, anticipating a communication breakdown which might have resulted from my not being an Arabic speaker and some students' lack of expertise in spoken English, I requested the native Arab instructor of English to assist me as an interpreter. His presence provided a sort of reassurance to students that they their responses will be correctly conveyed and they would not face any confusion or comprehension problem with the interview questions.

The interviews with the instructor and the primary participants also investigated the reasons for revisions which they made in their essays in the light of the feedback provided using asynchronous CMC. The transcript of interview questions asked of both teachers and students are attached as Appendix B and C respectively. Interview data was gathered to address the second research question on feedback activity and the third research question on attitudes.

3.4.3 Classroom observation

Extensive field notes were taken during four classroom observation sessions of two One hour lectures of each group/section. These observations were made in order to see how students participated in classroom discussions and face-to-face feedback sessions. They were also intended to discern differences in classroom discussions and face-to-face feedback sessions with regard to collaboration and interaction. This instrument was not

explicitly used to answer any specific question; rather these observations fed into and informed my interpretation of other data sets.

3.4.4 Student writing

CMC via Blackboard® LMS was used in this class for both synchronous text chats (6 in the session) and asynchronous forum activities (discussed in detail above). At the end of these synchronous and asynchronous activities, I downloaded the complete texts of the whole discussions and then sorted out entries of the 10 main participants in order to keep the text material in the working limits of one researcher. I planned to use students' text based interaction produced during these synchronous and asynchronous discussion to explore discourse functions, in order to trace the development of academic literacy from the start to the end of the study period and also locate any differences in the use of the two mediums. The collection of these texts was intended to answer the first research question on the use of various discourse functions by the learners during the synchronous and asynchronous CMC and the differences/similarities in the use of discourse functions in these two mediums.

Eight peer feedback activities were conducted through asynchronous CMC discussion board in order to collect comments and feedback by students to their peers on the draft essays they were expected to develop during the time of the study. These asynchronous activities (conducted once in a fortnight for one semester) are part of the course and are conducted as a norm in all writing classes at this level. The students' postings were vital in tracing the influence of CMC on the participants' assignments and to explore intertextuality—that is, evidence of revision of first drafts following peer feedback. I planned to compare students' first and final drafts in order to track how much of the peer feedback had been tapped into the final drafts of the participants. Therefore,

the ten primary participants' entries in the asynchronous forums dedicated for presenting first essay drafts for peer review, the peer reviews of the participants and finally the revised drafts were collected. These texts were used to answer the second research question related to peer feedback activities.

Student writing from the 10 participants' major assignments were collected, so that I could look for evidence of how they learned the skills of academic writing in these particular classes and what role CMC played in the process. In other words, what I wanted to look for in the assignments and the feedback on these activities, was direct evidence of the things they were taught in the classroom sessions and other course materials; structure conventions related to punctuation, paragraph structure, quotations and grammar conventions, development and growth of ideas in logical progression, and application of genre conventions related, for example, to distinguish between an expository essay and an analytical one. The collection of students' major assignments was used to address the second research question: How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?

3.5 Data analysis

3.5.1 Methods of analysis: Research Question 1

The first research question was:

1. How do participants (EFL learners in a Saudi undergraduate college) use CMC to negotiate academic literacy with peers?
 - a. What discourse functions do participants use when they are engaged in online discussions?

- b. Are there differences in the use of discourse functions in synchronous and asynchronous writing?

To answer this question, EFL learners' online interaction, asynchronous and synchronous, was coded for discourse functions using the constant comparative method described in the following section. In addition, participants' responses to the semi-structured interview questions—on what they perceived of their language use and how they negotiated with peers and the teacher when they were engaged in computer-mediated activities—were also investigated to establish links between what the students actually did and what they perceived they did. Data were coded separately by two experienced local writing instructors and the researcher. An inter-rater coefficient of .92 was obtained, and disagreements were worked out through group discussions until the three raters came to 100% agreement. After coding the discourse functions, I quantified them and highlighted the emerging patterns in their use. Then, they were analysed qualitatively and examples were provided from the participants' interactions to bring out the significance of the most frequently occurring discourse functions.

The categories of discourse functions in the peer feedback studies exploiting CMC were taken from Sotillo (2000) and Cheng (2007). Sotillo identified them by illustrating from excerpts of both synchronous chat and asynchronous discussions how different discourse functions were specifically used. The discourse functions which Sotillo discerned are as follows:

Sotillo's synchronous discourse functions:

(1) Greetings

(2) Topic Initiation

(3) Assertions/Imperatives

(4) Requests (clarification, Comprehension checks, Explanation requests)

(5) Responses (elaboration, Explanation, clarification, Apology, agreement)

(6) Adversarial Moves

(7) Off topic comments

(8) Topic Shift Moves

(9) Humor

(10) Information Requests

(11) Floor Holding Moves/ Topic Continuation

(12) Corrective Moves

(13) Reprimands

(14) Closing Moves

Sotillo's asynchronous discourse functions:

(1) Topic initiation moves

(2) Student responses

(3) Teacher response comments

(4) Students' comments or responses to other students

Some of the discourse functions which Sotillo discerned in asynchronous mode like adversarial moves, humor, off topic comments, floor holding moves and reprimands were not found in the asynchronous data that I collected.

Cheng (2007) listed eight categories of discourse functions with in both synchronous and asynchronous modes and called them language functions instead. These language functions are as follows:

- (1) Showing disagreement
- (2) Supporting and confirming
- (3) Questioning
- (4) Advising
- (5) Reacting
- (6) Eliciting
- (7) Critiquing
- (8) Explaining

All the eight categories that Cheng mentioned were found in both the synchronous and asynchronous texts that I recorded. I chose the phrase 'discourse function' because it is more specifically and clearly related to the language in use I was looking at than the more abstract term language function. As can be seen, the names of the following categories correspond (to a large extent) to both Sotillo and Cheng's categories. The differences can be attributed to the fact that these categories emerged in the specific context of my study after a detailed analysis of the students' online interactions, both in the synchronous and asynchronous mode, during the pilot study. The pilot study was conducted on a very small

scale focusing the first research question on discourse functions. Although the participants of the pilot study and the main study were different, the same discourse functions were discerned during both. These are as follows:

- 1) Greetings
- 2) Topic initiation
- 3) Explaining
- 4) Supporting and confirming
- 5) Questioning
- 6) Advising
- 7) Reacting
- 8) Eliciting
- 9) Critiquing
- 10) Showing disagreement
- 11) Closing moves

I must add here that these discourse functions were grounded in the questions of discussion related to academic writing and related essay topics. In other disciplinary writings, other discourse functions may be appropriate/employed.

Constant comparative method

The constant comparative method, now widely used in qualitative analysis, was first proposed by Glaser & Strauss (1967). The main purpose of this method was for “prediction and explanation” and “deriving theory” instead of processing data (Lincoln & Guba, 1985, p. 339), but it’s now used more widely. Because of its inductive, generative and constructive nature, constant comparative method conforms to the theoretical

framework of my study. I have used this method in categorizing the discourse functions because of the inductive nature of the study, and the social and cultural nature of academic writing acquired through the collaborative environment of CMC. Goetz & LeCompte (1981, p. 58) state that:

This strategy combines inductive category coding with a simultaneous comparison of all social incidents observed. Thus, the discovery of relationships, that is, hypothesis generation, begins with the analysis of initial observations, undergoes continuous refinement throughout the data collection and analysis process, and continuously feeds back into the process of category coding.

Keeping in mind the above strategy, the discourse functions were discerned and revisions were made constantly in order to clearly assign a text to a particular discourse function that a particular text fulfilled in its context.

3.5.2 Methods of analysis: Research Question 2

The second research question was:

2. How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?
 - a. How does peer feedback provided via CMC tools influence EFL learner's completion of their assignments?
 - b. How do students perceive the role of feedback provided via CMC tools in producing their final drafts?

The second question was investigated through the textual analysis of students' essay compositions, both the first drafts and the revised ones after the feedback activity and interviews. The purpose of textual analysis is to describe the content, structure, and functions of the messages contained in texts. Textual analysis includes the identification,

examination, and evaluation of various techniques and tools used by the creator of a text. There are various approaches to textual analysis, for example rhetorical criticism, content analysis, and interaction analysis (see Garrison et al. 1999), among others. Rhetorical criticism refers to a process in which a text is analysed with a view to finding symbolic artefacts (including words, phrases, images, gestures, performances, texts, films, and "discourse" in general) to discover how symbols act on people. The goal of rhetorical criticism is greater understanding and appreciation of a work of art. "By improving understanding and appreciation, the critic can offer new and potentially exciting ways for others to see the world. Through understanding we also produce knowledge about human communication; in theory this should help us to better govern our interactions with others" (Kuypers 2009, p. 13). Content analysis is closely related to rhetorical analysis and is often included under the general rubric of "qualitative analysis," and used primarily in the social sciences. It is "a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding" (Stemler 2001, p. 17). For my research I carried out textual analysis which is a technique whereby interactions of various types are analysed for different interactional moves and techniques used by those interacting using writing in a particular setting. While Bazerman & Prior (2004) have focused on various terminologies in their analysis, Swales (1990) focused on the text moves in his analysis. According to Swales a text move is a change in the discourse function that can be marked in a written text. But as there are no set standards to do the analysis perfectly, perhaps the best approach to analysis is to locate the real needs of the study to answer research questions (Bazerman & Prior 2004). Therefore, the textual analysis that has been carried out in this study is closely related to the content and interaction analysis of the academic writing assignments that students were required to complete. So, keeping in view the demands of the research question,

first of all, students' academic compositions submitted for peer-review in the specific forum assigned for the purpose were examined to see whether there was a relationship between students' peer feedback activity and their written assignments. Secondly, textual analysis also determined whether students followed the instructor's guidelines delivered to students both via face-to-face and CMC interaction. Finally the students' first composition drafts were compared with the final versions. The purpose was to trace whether the revisions were carried out as a result of peer feed-back, instructor's guidelines and/or some other source.

The interviews with the primary participants also investigated the reasons for revision. The second purpose of the interviews was to investigate the learners' perceptions about the peer feedback activities using CMC. I used the learner's responses to address question 2b. Bell (1999, p. 135) points out the benefits of interviews with regard to the interpretative information they offer, in that they can be used to seek information that written responses may not reveal fully. More recently Talmy & Keith (2011, p. 1) feel that in mixed method research "we can in the future expect to see interviews feature across an even broader range of studies". Unlike the analysis of quantitative data, for the analysis of qualitative data, there are less well-established and standard rules. In the process of conducting the interviews for this study, questions were designed to elicit responses that could be compared with and interpreted alongside those arising from the questionnaire.

Procedures of analysis

Firstly, the EFL learners' written drafts (both first drafts and revised drafts) and asynchronous computer-mediated peer review were collected from the Blackboard® LMS forum reserved for this purpose. Each learner's first and revised drafts were put side by

side and compared sentence by sentence. Differences were marked and coded according to the types of changes such as addition, deletion, polishing and reshuffling (Gosden 1995). The difference was then compared with the peers' feedback to explore and describe how learners incorporated CMC peer feedback (or instructor guidance) in their revisions. Here, the focus of analysis was to investigate whether intertextuality was established and how this was achieved with the help of online discussions.

Secondly, transcripts from interviews with primary research participants were also analyzed to discover the reasons behind the revisions learners made in the papers. The reasons why they did or didn't incorporate feedback from peers, and why they made some other revision for any other reasons were explored. The analysis of interview transcripts provided an opportunity for triangulation with the text analysis, in order to strengthen the study results. It also focused on the intertextuality between Blackboard® LMS discussions and the learners' academic writing assignments and internalization of academic literacy.

Finally a detailed analysis of the discussions (Chapter 4) was provided to show the relationship between the written assignments and feedback activity. This is based on the evidence revealed from interviews and written assignments.

3.5.3 Methods of analysis: Research Question 3

The third research question was: What are students' attitudes towards the collaborative writing process through CMC?

To obtain the answer both quantitative and qualitative data were analysed using an attitude scale and interviews respectively. I tried to blend the two approaches (quantitative and qualitative) in order to have a more complete picture of students'

reported perceptions. On the one hand a quantitative approach transforms the characteristics of the research participants from a complex phenomenon into a reduced number of measurable and quantifiable variables which can be statistically analysed. On the other, although the responses given by the participants can be refined and analysed straightforwardly with the detailed planning of the quantitative instrument, the result often falls short of considering the individuals' detailed perceptions or offering a comprehensive understanding of the phenomenon under study. One way of achieving a comprehensive understanding from quantitative data is to add some qualitative data analysis. Hence semi-structured interviews were conducted to collect the interpretative data. The purpose of using semi-structured interviews was to complement the quantitative analysis of the questionnaires, and provide a more detailed picture of students' practices. (See Appendix C for the students' interview questions transcript.)

At the start of the semester, in total 47 survey questionnaires (details in Section 3.2.a) containing the first part of the scale about personal information (requiring open ended responses), were administered to the participants in both class sections of academic writing course (N=26 and N=21). Three participants from the two sections dropped out of the course midway. The remaining 44 participants completed the course and continued to participate in the study. The remaining two parts of the questionnaire were distributed in the last week of course work. Since 3 of the participants were dropped from the course, only 44 questionnaires were used. Semi structured interviews were conducted after the end of the semester exams with the ten case study participants in order to see if they were consistent in their views while answering the questionnaire and while answering the interview questions. Interviews, therefore, also served the purpose of data triangulation.

3.6 Ethical issues

Prior consent, obtained in written form, was required for launching this study. Free and informed consent lies at the heart of ethical research involving human participants and mandates that participants be given a brief overview of the general focus of the study and asked to read and sign an informed consent form (Beauchamp et al. 1982). Explicit consent was granted by the Chairman of the Department of English (See Appendix D) and the teacher was given an explanatory statement (See Appendix E) with a brief overview and objects of the study. On agreeing to participate, the participants signed a consent form (See Appendix F). Being colleagues for many years, the instructors and I have a genial professional relationship that doesn't involve any power/politics correlation. One of them was senior in rank (an Assistant Professor); this instructor and I share similar academic interests; this shared interest motivated him to participate in my study. The second instructor also willingly consented to be a part of this research. We discussed the requirements of my study in detail and discussed ways to incorporate them in their teaching before the term work actually started. My focus was to observe students' face-to-face interaction and record online interactions in the context of academic writing discourse, so I observed two one hour lectures of each group/section and was given access by the e-learning deanship to the two sections' data available in the forums and Elluminate Live sessions on the Blackboard® LMS. The students participating knew me as a teacher working in the same department and some of them had even taken some courses of writing at different levels with me. Therefore I believe I had a comfortable rapport with the students also. During the observation session, I realized that my presence was neither intimidating nor unnerving; rather the teacher reported that during the classes that I observed the students were more actively participating than the rest of the classes. So the issue of observer's presence has some implication for my study and

has added to the limitations of my study (as, perhaps they would to any similar study) in terms of the affected behaviour of the students, which could have been different had they not known that they were being observed.

Chapter 4

Research findings

4.1 Overview

This chapter reports and discusses findings in relation to all the research questions. It consists of three main sections corresponding to the three main research questions. Every section is then further divided into parts corresponding to the relevant sub questions. Each section also has a brief reminder of the data instruments and data sets that were used to answer that particular research question. In Chapter 5, the final chapter of the thesis, I shall relate this discussion of data back to my theoretical framework and literature review, in Chapter 2.

4.2 Findings in relation to the First Research Question (use of discourse functions)

1. How do participants use CMC to negotiate academic literacy with peers?

- a. What discourse functions do participants use when they are engaged in online academic writing activities?
- b. Are there differences in the use of discourse functions in synchronous and asynchronous writing?

The question of how participants use CMC to negotiate academic literacy with peers (Question 1, part a) was answered through the analysis of the discourse functions that were used by participants during online interactions (synchronous and asynchronous) and the participants' responses to the semi-structured interview questions on what they perceived of their language use and how they negotiated with peers and the teacher when they were engaged in computer-mediated activities. The online discussion activities were recorded in both online discussions (synchronous) conducted through Elluminate Live and Blackboard® LMS forums (asynchronous) in the form of peer feedback. The

details have been given in Chapter 3. Students’ participation in the synchronous and asynchronous modes was recorded and is presented separately in two different tables. It is presented separately for clarity and for comparing any similarities or differences in students’ participations in the two modes.

Table 4.1 below shows the number of online entries made by 10 participants in each asynchronous forum during one semester.

Table 4.1 Number of online entries by the participants in different asynchronous forums

Participants	Writing mechanics forum	Brainstorming forum	Peer review forum	Total
Participant 1	12	10	16	38
Participant 2	9	12	14	35
Participant 3	12	8	7	27
Participant 4	11	7	11	29
Participant 5	7	9	10	26
Participant 6	15	12	15	42
Participant 7	6	11	14	31
Participant 8	16	13	16	49
Participant 9	4	12	9	25
Participant 10	9	13	14	36
Total	101	107	126	338

A total of 338 postings were made by 10 participants in a period of 14 weeks of term work. This indicates that on average one participant contributed roughly 34 times in 14 weeks, which is about 3 postings per week across all three forums. This works out as around one posting in one forum in one week. This rather low rate of participation echoes teachers’ comments in the interview that the students did not use the facility as much as was expected of them. In other words the students were not very actively participating in the online asynchronous forums.

Table 4.2 below shows the number of online entries made by the 10 participants across 6 synchronous (Elluminate Live) chat sessions during the one semester.

Table 4.2 Number of online entries by the 10 participants in 6 synchronous online chat sessions

Participants	Total postings in 6 sessions
Participant 1	30
Participant 2	26
Participant 3	27
Participant 4	29
Participant 5	24
Participant 6	39
Participant 7	24
Participant 8	41
Participant 9	14
Participant 10	28
Total	282

The table highlights the fact that on average each participant posted about 28 times in all the 6 sessions, which is around 4/5 postings per one hour sessions. Comparing the two modes, we observe that students participated more actively in the synchronous than the asynchronous activities. The reason given by the teachers was that participation in the live – synchronous – sessions was mandatory as it counted towards the attendance requirements to be fulfilled by every student. In addition, the teachers opined that through live discussion which was closer to real life, students could post their immediate queries and get prompt replies, and that this immediacy encouraged participation.

Appendix G is the full transcript of one online chat session conducted via Elluminate Live that demonstrates how students' online interaction was coded for discourse functions. In addition Table 4.3 below gives examples of the discourse functions used by the students across both the synchronous and asynchronous interactions. These discourse functions were located in the 282 synchronous and 338 asynchronous postings.

Table 4.3 Examples of (asynchronous and synchronous) discourse functions

Discourse function	Example from learners' online interactions
Greetings	<i>Salam a alaikum</i> (Peace be upon you)
Topic initiation	First we may discuss the importance of happiness in peoples' lives
Explaining	Russell associate happiness with work. He says that one cannot be happy if one has to think how he should spend his time. So if you have work, you don't have to think that and you remain happy.
Supporting and Confirming	You are right when you say that photocopying whole chapters of books is illegal.
Showing disagreement	I think work does not provide happiness. What makes you happy is freedom to do what you want and not do what you don't want.
Questioning	What is the cause of this migration?
Advising	Your essay will be more effective if you include more specific details and examples in it.
Reacting	I didn't say that you can get someone to write your essays for you. What I wanted to say was that you may take help from someone to help you develop your ideas.
Eliciting	Could you give some evidence why safety is enhanced when children are seated in special seats?
Critiquing	You have not justified why teachers should be more strict in conducting their classroom activities.
Closing moves	I feel enough discussion has been done. Let's meet on Monday with a new topic.

Table 4.4 presents the types and frequencies of occurrence of discourse functions in the online entries produced by 10 participants in both synchronous and asynchronous activities.

Table 4.4 Type and frequency of discourse functions in online entries

Type of discourse function	Synchronous mode	Asynchronous mode
Explaining	30%	35%
Topic initiation	18%	3%
Supporting and Confirming	12%	16%
Reacting/responding to Critiquing	12%	11%
Showing disagreement	10%	10%
Questioning	8%	6%
Advising	0%	6%
Greetings	2%	6%
Critiquing	6%	3%
Closing moves	1%	3%
Eliciting	1%	2%
Total	100%	100%

4.2.1 Discussion of findings

In this section, the discussion focuses on the role that CMC played in facilitating students to understand their writing tasks. This is done by showing how and for what purpose the students used various discourse functions and how CMC provided extended opportunities

for collaboration between students. This emerged during the interviews, and quotes from interview transcripts have been provided to illustrate this. The discussion starts with the description (with each discourse function under a corresponding heading) of the use of different discourse functions and why some functions were used more frequently than others.

Explaining:

The first important observation from the quantitative data analysis is the extensive use of the explaining function in both synchronous chats (30%) and asynchronous discussion (35%). The function of explaining is a very broad category which was used for a variety of reasons, e.g. for elaborating a point in discussion, for responding to requests/questions for clarification or explanations, or for explaining a particular point of view. This may be attributed to the fact that the nature of the tasks—discussing, commenting or providing information—was such that the participants had to use this function most often and, in a task of a different nature, the frequency of this discourse function may differ significantly.

Examples from students' interactions (both synchronous and asynchronous) are provided here to illustrate how they used this function for various reasons.¹

Example 1 (asynchronous): Participant 7 explaining how to organize a cause/effect essay (showing understanding)

<p>Participant 7: <i>This type of essay explain why something happen and what is the result. The essay can start with effect and find its causes or the essay can begin with a cause and give its effects.....<Explaining></i></p>

Example 2 (synchronous): Participant 1 and 5 explaining the difference between a three and a five paragraph essay (responding to requests/questions for clarification or explanations)

¹ Online Chat transcripts presented here have been set inside tables with distinct fonts for ease of recognition. To shorten the dialogues and drafts not critical to the analysis, an ellipsis [...] was used; not all posts in the Chat room were included as well in order to streamline the presentation of data.

Teacher: Ok. Can anyone tell the difference? <Questioning>

Participant 1: yes, The 3 para essay has only one body para the 5 has 3 body paras. <Explaining>

Participant 8: But why 3 body paragraphs? <Questioning>

Participant 1: I think there are more specific details in 5 paragraph essays. <Explaining>

Participant 5: fine, but every paragraph has one main idea. <Explaining>

Participant 1: so 3 paragraph essay has 3 main ideas and 1 paragraph essay has 1 main idea. <Explaining>

Participant 1: yes the specific detail is about the main idea. <Explaining>

Participant 1: I think so after reading the two example essays in the book. <Explaining>

Participant 5: yes the question 3 on page 7 is about this. <Supporting and confirming>

Participant 8: yes I don't understand that question. <Questioning>

Teacher: ??? <Eliciting>

Participant 5: the two essays are written by the same writer. <Explaining>

Participant 1: in the first essay the body para tells about the difference between writing in school and college. <Explaining>

Participant 5: I think in the first three para essay, he tells his experience of difference in writing schools essays and college essays in the body para. In the second 5 para essay he tells the difference in 3 paras and he is dividing the experience in three main ideas and giving more details about them. <Explaining>

Example 3 (asynchronous): Participant 9 explaining about the concluding paragraph (elaborating a point in discussion)

Participant 3: But why is the thesis statement repeated in the concluding paragraph? <Questioning>

Participant 9. We don not repeat the thesis statement. What I mean is that we rephrase it and conclude our essay so that the reader reminded at the end what was the central idea of the essay. [...] <Explaining>

The examples provided above show that the students were using the discourse function explaining for various reasons and that may explain its higher rate of recurrence.

Also relevant in understanding the explaining function was the participants' apparent feeling that it constituted their main purpose in using the forums. In the following discussion, relevant interview data will be provided to explore what students thought of the extensive use of the discourse function explaining. I decided to ask participants during the interview about various emerging patterns that were identified while coding and categorising the discourse functions. So I asked some students what they think was the one most important thing about both synchronous and asynchronous

discussions. Most of the students considered the discussions as requiring them to explain what they thought. This is what Participant 3 said in the interview: [Responses are reproduced here as they were spoken by the students, without corrections]

It is very good, the forum. We discuss many points. When someone asked our opinion we gave it. If a student was not sure I made effort to help and explained in the best way I could. Also forum was excellent. There students helped each other by giving comments and explained with detail about any issue.

Participant 5 shared similar views:

The forums gave us a lot of opportunity to share our views on different issues. We learnt from each other because I think everyone was trying to explain what they know about different topics. For example I always studied well about the topics for discussion in the Elluminate Live discussions. So I was easily explained to my class fellows about things they were not clear to them. Also when I asked something I was not sure for, I was satisfied with my class fellows' answer, specially student 6 always explained very nicely and the teacher also explained properly when no one could answer....

One of the instructors, when asked to comment on the extensive use of discourse function explaining, answered:

I think for effective collaboration to take place, it is important that the peers share what they know with one another. During the online forum activities this was exactly what they were doing. So in order to share their knowledge, students were using this function (explaining) more often than the others. Actually it was the nature of these tasks that afforded the extensive use of this function. It also

shows that those who knew more than the others were willing to share their knowledge and they were explaining what they knew to their peers as best as they could.

The importance of the discourse function explaining in learning is apparent from the research literature. Webb & Mastergeorge (2003) for example, describe various studies which show that giving and receiving explanations is beneficial to learners' achievement during peer interactions and learning in small groups. They acknowledge that students learn a great deal by explaining their ideas to others and by participating in activities in which they can learn from their peers. According to Webb & Mastergeorge (2003) explaining is important because it highlights the two aspects of learning. First, explaining entails that the one doing the act of explaining 'knows' what they are talking about and second they are willing to share their knowledge by elaborating it to others. Given the findings from these earlier studies, the use of the explaining function during CMC in EFL classrooms may be beneficial since we can infer that the learners in this study were undergoing learning of different structural and genre traditions of academic writing and were sharing their knowledge by explaining it to other learners. In other words collaborative learning took place in the context of this study.

Supporting and confirming:

In the asynchronous mode, the discourse function supporting and confirming was the second most used (16% of the total discourse functions). The following example from students' online asynchronous postings illustrates how it was used.

Example 5: Supporting and confirming

Student 3:

I believe that any piece of writing should have the characteristics of good writing, namely – clarity, simplicity and accuracy in addition to coherence and cohesion. Most essays I

reviewed have some features but not all of good writing. **<Explaining>** However, *Student A's essay has ideas presented in clear and consistent manners, also has a good organization format.* **<Supporting and Confirming>**

Student 7: *I am agree this is excellent essay caz its clear and the idea flowing easily in addition to good organization.* **<Supporting and Confirming>** For example, the 4th para about the reason why overpopulation is problem is informative. The detailed idea provid a lot of information.[...] **<Elaborating>**

The frequency of the category supporting and confirming demonstrates that the learners gave mostly positive comments and encouraging remarks when discussing other students' writing during peer review tasks. Similarly, when their own writing was under discussion they responded to others' comments with gratitude. This suggests that CMC may be helping them to foster mutual confidence and build positive rapport with one another by engaging in these collaborative assignments. We observe that the frequency of disagreement was only 9% in the asynchronous mode, implying that students were more willing to support peers than disagree with them. During the interviews Participant 1 was asked how he felt about the peer feedback on his writing, he responded:

As I said Blackboard® LMS gives us the chance to share our ideas. I like the responses from my colleagues. Although I don't like much when they criticise on my writings, but I understand they help me get improve. But I like most responses from my friends who encouraged me to write better.

Topic initiation:

A marked difference in the use of the discourse function topic initiation can be seen in the Table 4.4 above. The frequency of its occurrence is much higher (18%) in the synchronous chats than (3%) in the asynchronous mode. This may be explained by the fact that topics for asynchronous discussions were predetermined and structured by the instructors and usually students had little scope for introducing new topics. On the other hand, although

the synchronous chats were initiated by the instructors, usually the discussions were open ended and loosely structured and there was a wider scope for students to initiate newer or sub topics.

Reacting:

The third most frequently used discourse function was reacting (11%). This function included both reacting to critique and responding to eliciting (which may in part explain its relative frequency). It was used in the discussion forums for various reasons. Most reacting took place when the learners felt they were not clearly understood or they needed to respond to some interaction directly addressed to them. Some examples from students' discussions are given below:

Example 7: Reacting to critique

Student 8: The language of your essay is effective, with strong, colorful images. But some of the wording sounds cliché, so one way to make this even stronger would be to come up with alternatives to the more commonly used phrases,[...] **<Critiquing>**
Student 5: *I always write down what is there in my mind. I don't think clichés are bad, after all they have to be used when necessary [...]* **<Reacting to critique>**

Example 8: Responding to eliciting

Student 5: Can you explain this sentence which you wrote in your essay, "traffic problems have been exacerbated by the number of foreigners living in Saudi Arabia"? **<Eliciting>**
Student 3: *I mean the increasing number of resident expatriate labour working in Saudi Arabia, who also have cars perhaps double the number of citizens add greatly to the problem .* **<Responding to eliciting>**

During the interview, Participant 8 pointed out the importance of critiquing. His answer also reflects how he thought critiquing helps students to collaborate.

In the beginning I was afraid to not criticize or ask for clarifications from my class fellows. I thought so because you know it could offend some body. But then I said if I don't do that I am not honest and also I am not helping my peers. Then I started it

and came to see that due to this my class fellows were making improvements in their essays. I feel it gives them a chance to be more correct and also it helps us to cooperate with each other.

Participant 8's comment also sheds light on why critiquing was less frequent—only 3%. His reason highlights the social aspect, that of not offending their peers. They did not want to offend their peers but when they thought it was necessary they did resort to critiquing. Moreover, critiquing requires a certain amount of reflection and thinking before such a comment could be made. Since the frequency of its occurrence was so low we may conclude that perhaps most of the students did not spend much time to think deeply and find reasons to critique. Those who did critique must have reflected seriously and provided their evaluation of their peers' ideas. The frequency of reacting to critiques and/or responding to eliciting also shows that students were eager to provide their responses in order to clarify or to justify their point of view.

Other functions:

The remaining discourse functions (greetings, advising, questioning, showing disagreement, critiquing, eliciting and closing moves) were all fewer than 10 percent. This is not surprising in some respects – for example, I grouped together reacting to critiques and eliciting (rather than dividing them into reaction and response) so I expected reacting to be bigger as a group than critique and eliciting because students sometimes also reacted and responded to their peers when some of them showed disagreement about an issue. So we see that the frequency of reacting is more than double the frequency of critique and eliciting put together.

A further reason for the low use of discourse functions such as advising and critiquing may lie in users' lack of experience and/or expertise in the field of academic

writing. I think the functions advising and critiquing foreground users' experience and/or expertise of a field, in this case, academic writing. The analysis of the interview transcripts and online postings in the peer review forum indicated that these EFL students were hesitant to assume the role of an expert and thereby advise and critique, especially at the beginning stage. After some initial weeks, they gradually began to do that as shown in the example above. Most of them reflected in the interviews that they would easily accept or consider those functions (advise, critique) applied to their writing without feeling offended as shown in the excerpt just quoted above. But they did not think, at least initially, they were in a position to provide constructive feedback or critique others as stated by Participant 4:

I didn't think that I can evaluate my class fellows' properly in the beginning. But after the readings that we did in the course book and the online resource and then comparing my peers essays, I found some problem with their essay and then I gave some advice to my friends and suggested ways so that their essays may be improved.

The fact that participants were able to explain and were willing to be supportive, and yet in the main found it less easy to directly critique or advise, suggests that students needed clear instructions and some practice on how to effectively criticize and/or advise in the peer feedback activities. As the two examples above suggest that practice helped two of the participants develop this critical sense and they began to critique and advise with the passage of time.

4.2.2 Summary

In the above discussion of the findings in relation to the first research question—how participants use CMC to negotiate academic literacy with peers—I have looked at the discourse functions that students used in their CMC activities and reported their perception about these activities and their participation in them. The discussion on discourse functions illustrated various uses by the students to discuss academic papers with their peers. While doing so the most frequent discourse function used was ‘explaining’. As discussed in the foregoing discussion, Webb & Mastergeorge (2003) demonstrated that the use of explaining may be construed as evidence that collaborative learning is taking place. It reflects an environment where students interact to assist each other by clarifying, explicating and providing information to each other. The nature of the tasks in the asynchronous CMC was to find and share information on topics related to academic writing and reflect and relate it to the face-to-face teaching by the teacher. In the process the use of various discourse functions, but mostly ‘explaining’ in this mode of communication was also a sign of scaffolding among peers to develop their knowledge in the discipline of academic writing. It may be implied that the development of academic literacy took place in the process of such discussions and negotiations. The students were learning and acquiring the particular discourse of academic writing in addition to exploiting CMC as a technological medium. The use of CMC provided them with practice and opportunity to gain competence in this medium, thereby enhancing their technical literacy, which is for many researchers an essential element of academic literacy. In other words the students acquired academic literacy through the nature of the course work tasks and their CMC interactions. The interviews further revealed that most students were keenly helping each other with generating and reshaping ideas and learning how to expand and discuss them in their essays. The low frequency of occurrence of some

discourse functions like critique and advise in comparison to agreeing and supporting also suggests that students helped each other to build confidence and refrained from critiquing or disagreeing unnecessarily which could discourage participation by weaker students. However, other factors discussed above about the lack of expertise for critiquing and advising may also be viewed side by side in order to rationalize the low frequency of such discourse functions.

It may be implied from the observation and analysis of their interactions and their responses to the semi-structured interviews that in this process the students acquired some proficiency in the academic essay writing through the use of CMC. A valid and reliable way to explore this is by providing evidence from their writing products, essays in this case and in particular the ones they posted on the forum for peers to comment on. This is going to be established in the answer to the second question presented in Section 4.3.2 which focuses on intertextuality.

4.2.3 Differences in the use of discourse functions in synchronous and asynchronous modes

To answer question 1, part b (Are there differences in the use of discourse functions in synchronous and asynchronous modes), interaction from the synchronous discussions was compared to the asynchronous ones. Differences in synchronous and asynchronous interactions have been reported in previous research, which suggest that asynchronous modes may be used for more task-oriented and less phatic or playful discourse. For example, Herring (1999) reported that users exploit the potential of loosened coherence for the purposes of play and to enjoy intensified interactivity, especially in synchronous modes. Similarly, Johnson (2006) reports a higher percentage of social-emotional interactions in the synchronous mode than in the asynchronous mode and more time spent in task-oriented interaction in the asynchronous discussions mode. Also Levin et al.

(2006) discovered that interactions during asynchronous discussion reflected more critical thinking than during synchronous discussion. Moreover, Sotillo (2000) found that asynchronous discussions afforded more constrained discourse functions than those found in synchronous discussions. Similarly, in the present study, there were differences in the types of discourse functions present in both the asynchronous and synchronous data. We have already seen that the discourse features found in the asynchronous discussions consisted primarily of explaining in responses to teacher- or student-generated questions, supporting and confirming postings made by both teacher and students and reacting to critique. In contrast, in the synchronous data questions including requests for clarification and information, and disagreeing predominated. The synchronous mode thus reflected a more social-emotional interactional discourse than in the asynchronous mode.

In our previous discussion of the use of various discourse functions in the asynchronous CMC, we observed that the students were obliged to use the 'explaining' function the most because the interaction was mainly task oriented in that students participated to complete a task such as providing information about an issue and discussing other students' first drafts. Such tasks also encouraged critical thinking, where the students had to reflect on and critique various issues of academic writing in addition to providing critical feedback to the peers on their essay drafts. Consequently each turn in the interaction was lengthy and detailed. In this way, the present study reflects the result of the above mentioned study by Sotillo (2000) which found that asynchronous discussions afforded constrained discourse functions. It also reflects Levin et al. (2006) study which discovered that interactions during asynchronous mode reflected more critical thinking than during synchronous mode.

In the CMC synchronous discussions using the *Illuminate Live* tool in this study, students posted questions or responses to teacher- and student-generated questions. Usually the answers were brief. Long messages were rare because the nature of questions was such that they required short answers. This is illustrated by the following excerpt from a synchronous session.

Teacher:	What about you Talha?	<Questioning>
Talha:	I read it yes but I am confused.	<Responding>
Teacher:	Why?	<Questioning>
Talha:	I don't understand the difference between 3 para and 5 para essay.	
	<Explaining>	
Teacher:	Ok. Can anyone tell the difference?	<Questioning>
Saleem:	yes, The 3 para essay has only one body para the 5 has 3 body paras.	
	<Explaining>	
Talha:	But why 3 body paragraphs?	<Questioning>
Saleem:	I think there are more specific details in 5 paragraph essays.	
		<Explaining>

We see that the nature of the above synchronous interaction is conversational in which questions are asked mostly for immediate clarifications. The answers are also brief because of the immediacy of the conversation-like pattern of the synchronous mode.

During the interviews most students were of the view that long answers required more concentration and effort to produce, whereas the synchronous mode forced them to be brief and quick in responding. This was so because the students thought this environment (synchronous) was very close to real life conversation/discussion, in which

the interlocutors had to consider the fleeting nature of the talk, especially when there were a number of participants, and where there was a possibility of greater digression from the present point of discussion. Participant 8 who was very active in the synchronous chats said:

Bb discussion was different from Elluminate chat because I read what my classfellows wrote. Then if I found some mistakes and then wrote my feedback. But in the chat time was short and if I want to say something about discussion I typed very fast and sent the message because sometime I was writing something in reply to someone and was late... hmmm you see the topic of....errr... the topic of ...changed.

Participant 2 who contributed about half as much as Participant 8 (26 entries to 41 entries) said:

Elluminate was difficult for writing due to the very little time to asking questions and writing their answer. If I was late some the other friend gave the answer and some the other....er... talk was started.

This also, sometimes, resulted in loss of chronological information as a result of the intervening postings and lack of adjacency. Because of the rapid scrolling of messages, some students posted only two or three messages during the 60-minute sessions. A majority of students reported in the interviews that most of their time was spent reading their classmates' postings. Despite that as mentioned above, students' postings were more frequent in the synchronous than the asynchronous mode. The reason perhaps could be that the participants, despite finding it difficult, did post more frequently due to the immediate involvement and engagement in the synchronous chat that forced them to say something or the other.

Let's now look at some of the differences and similarities in terms of the distribution of discourse functions that were noticed while comparing the two modes. The five dominant discourse functions that were identified in the synchronous mode (282 postings) were topic initiation moves; explanations (student responses; teacher response/comments; and student responses); criticising other students' writings or reacting to criticism; and showing agreement or disagreement with an idea being discussed. Eighteen percent (18%) of the postings were identified as topic initiation moves. Thirty percent (30%) of the postings were explanations. Six percent (6%) were critiquing, twelve percent (12%) were reacting to criticism and 12% were to show agreement and supporting/confirming. Table 4.5 below shows the difference and/or similarities in the use of various discourse functions between synchronous and asynchronous modes. The total for the asynchronous mode has been rounded down to 100%.

Table 4.5 Differences in the use of various discourse functions between synchronous and asynchronous mode.

Type of discourse function	Synchronous mode	Asynchronous mode
Explaining	30%	35%
Supporting and Confirming	12%	16%
Reacting/responding to Critiquing	12%	11%
Showing disagreement	10%	10%
Questioning	8%	6%
Advising	0%	6%
Greetings	2%	6%
Critiquing	6%	3%

Topic initiation	18%	3%
Closing moves	1%	3%
Eliciting	1%	2%
Total	100%	100%

The first observation is with regard to the explaining function. We see that the frequency of its use is different but not very significantly. This may be attributed to the fact that like asynchronous discussions, during the synchronous chat the students had to answer various questions and respond to elaborate a point in discussion. For this purpose they had to explain what they thought was the right answer to their peer’s questions. Therefore, the discourse function explaining was used the most during these synchronous exchanges as well. The difference was more in the number of words used to explain, rather than the number of explanations. In general, the asynchronous explanations were lengthier than the synchronous ones. Moreover, many explanations in the synchronous data were clarifications, rather than, say, elaborating on a point of view.

Similarly we see that the frequency of occurrence of the discourse functions ‘supporting and confirming’, ‘reacting/responding to critiquing’, ‘showing disagreement’ and ‘questioning’ is quite alike across the synchronous and asynchronous data. This observation can be justified on the basis that both the modes were used in the course for similar academic purposes and both modes entail interactions of similar kinds.

Differences, however, were seen in the use of the discourse functions ‘advising’ and ‘greetings’ and ‘topic initiation’. As discussed in the previous section, advising (0% synch to 6% asynch) requires a degree of expertise and critical reflection on the part of the person advising. Since the interaction through the synchronous mode is more of a fleeting nature than the asynchronous mode, so the interlocutors may find it yet more

difficult to advise in the synchronous mode. Moreover, the content and context of the discussion itself were such that the students had little opportunity to give advice. Difference in the use of 'greetings' (2% synch to 6% asynch) can be explained by the fact that asynchronous discussions took place in a relatively relaxed and less time constrained milieu and the students had time to engage in such formalities, whereas the immediacy of synchronous mode might have required a more direct and a less informal way of participation. In addition, one doesn't tend to put a greeting in each conversational turn in the synchronous mode, but one might after a time delay in interaction—asynchronous—which is more like sending letters.

Lastly, the most obvious difference is in the use of the discourse function 'topic initiation' (18% synchronous against 3% asynchronous). This difference is because of the different nature of tasks. Since the asynchronous tasks were initiated by the teachers and the students had to respond to the teachers' requirement, there was less opportunity for any new topic or idea to start. Whatever new topic initiation took place was some extension of the same general discussion topic and would come under the category of 'questioning' for elaboration/clarification. On the other hand the synchronous chats provided opportunity to the learners to discuss more freely during which they could initiate all types of new topics, sometimes even not related to the general discussion topics.

Overall, then, the comparison suggested that although the same discourse functions were used in both modes, their frequency varied across the two. In the above discussion I have tried to suggest why some discourse functions were used more or less in one or the other. I would conclude the discussion on a passing point. Generally looking at the turns that both the students and teachers took during these interactions and the

overall content and the direction that the discussions took, I observed that although the tasks were initiated by the teachers, once a discussion took off, they were mostly student dominated in the synchronous discussions. On the other hand the discourse functions in asynchronous forums were similar to the traditional language class discourse format of question-response-evaluation involving the teacher.

4.3 Findings in relation to the Second Research Question (Peer feedback)

The second research question of the study was:

2. How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?

a. How does peer feedback provided via CMC tools influence EFL learner's completion of their assignments?

b. How do students perceive the role of feedback provided via CMC tools in producing their final drafts?

Learners were required to submit 4 essays each during one term of study. According to the course instructions, the students were required to post their first drafts in the forum for peer review activity provided through the Blackboard® LMS. They were then required to revise their essays in the light of the feedback provided by peers and submit a revised final draft in the forum. In order to determine the participants' use of feedback, textual revisions made on the initial drafts as well as the rationales behind these revisions were examined. Results after close scrutiny of the text for similarities and differences in the two versions indicated that the revisions made by the participants consisted of additions and/or deletions in the text for mainly these purposes: correction and elaboration at word or clause level; polishing of language at the sentence level; and

shuffling/rearranging sentences for clarity and cohesion of the ideas under discussion. I chose these categories in the light of my own teaching experience after consulting some senior colleagues. Since examining intertextuality—the amount of feedback that could be traced in the revised version of essays—was the main focus of the research question, rather than delving deep into syntactical and morphological issues in detail, I chose to explain and present the data and the findings using these broad self-explanatory terms rather than using more sophisticated technical ones. Table 4.6 presents the frequency of revisions made by the ten participants during the revision of their essays.

Table 4.6 Frequency of revisions

Type of revision	Frequency
Revision of sentences for corrections/clarity	419
Shuffling/rearranging sentences	273
Additions to the text for clarity and cohesion and adding contents/details	197
Deletions to the text	146

As the above table shows, the revision most often employed by the students was revision at sentence level either for correction or for clarity. The most common types of errors detected by students in the drafts of their essays were mistakes in the use of prepositions, subject verb agreement, parallel structures, dangling participles and run-on sentences. It is interesting to note that these rhetoric devices were explicitly taught in the face-to-face classroom lectures and the learners were making use of these in the online peer review activities. This exemplifies the scaffolding that took place during this study between the instruction, the activity and the practice. The second most frequent revisions

were related to rearranging sentences in paragraphs to achieve coherence and clarity. Such revisions also indicated that students were using their knowledge acquired from class room lectures and applying that in peer review activities. The third most common was addition of more sentences to the texts. Students added sentences in the paragraphs to provide more specific details and add more ideas as suggested by peer feedback. However, this figure hides some discrepancy between different students. Though some students (4 out of 10) added more sentences for clarity and cohesion taking into account all the relevant feedback, the remaining (6 out of 10) mostly ignored this kind of peer feedback and did not add anything to their texts. We might conclude that adding sentences to the body of the paragraph may have been daunting for some of the students as it required more effort, ability and time. Finally, the deletions were mostly at sentence level and occurred when the students realized through peer feedback that they had repeated some idea or the information given in a sentence was irrelevant and affected the logical progressions of ideas in a paragraph.

Of all the 10 participants essays—forty in total—which were analysed and studied in detail to detect revisions that could be traced back into peer feedback, only two essays, Participant 6's and Participant 2's are presented here as illustration of how far feedback was or was not incorporated in the revised version of essays. These essays have been chosen to exemplify two distinctly varying revision types. The first one, written and revised by Participant 6, was chosen as a good example of incorporating a lot of feedback. He was among the four of the ten participants who integrated most of the peer feedback in their revised drafts. The second type of essay, written and revised by Participant 2, was chosen to show how some of the students, despite getting some constructive feedback, did not revise in order to improve their drafts. He was among the six who usually ignored such feedback which required them to write more to improve their argument, exerting

some effort, requiring a certain level of writing ability, and spending more time. I am forced to stick to only these two examples in order to maintain brevity of the thesis.

4.3.1 Discussion (Example 1, Participant 6)

Let’s look at an essay by Participant 6. Both the first drafts and final versions are presented to see what revisions can be traced. This is an opinion essay and Participant 6 responded to this specific essay question: “Give your opinion whether the government should impose tax on the birth of every newborn baby in order to control population. Support you opinion with reasons and arguments”.

First Draft	Final Version	Types of Revisions
I have agreed that the government should impose tax on the birth of every newborn baby. The number of children born in each family should be fixed so that the population increases at a constant rate. In my opinion the government should take all the possible steps to bring down the birth rate, because overpopulation is the major problem of the world now days. Over population has given birth to poverty which is the mother of many other problems. Poverty causes malnutrition and it pushes the poor people towards crimes which finally lead to the disintegration of the society. Thus the government should take radical steps to control overpopulation. Overpopulation is also caused trouble to women. A woman who gives birth	<p>“A crowded society is a restrictive society; an overcrowded society becomes an authoritarian, repressive and murderous society.” — <u>Edward Abbey</u></p> <p>I agree that the government should impose tax on the birth of every baby born in addition to the fixed number of babies allowed for a family. The number of children born in each family should be fixed so that the population increases at a constant rate. In my opinion the government should take all the possible steps to bring down the birth rate, because overpopulation is the major problem of the world now days.</p> <p>The major reasons due to which over-population should be controlled are</p>	<p>Addition</p> <p>Shuffling/rearranging sentences</p> <p>Addition</p>

<p>to many children becomes unhealthy and has to work too much to take care of them and in this way she also becomes sick sometimes and the children also become in problem because their mother is ill. Also if a poor man has too many children he can not give them good food. He can not give them good education and also good health is difficult for maintaining. So if the country has overpopulation there is no balance between the resources and requirements of the people and many problems arise for the government. Examples of developed countries such as China, Japan, UK, USA, etc., are in front of us. The main reason behind their progress is that, they have learnt how to control the growth of population. China has imposed tax on the birth of every newborn baby. Therefore almost all the families in china have one child on average. On the country Asian countries such as Pakistan are suffering from severe energy crises, only because there is no control over the increasing population in these countries and the population is increasing at an explosive rate. In the end, I would conclude that the countries which control</p>	<p>discussed here. First of all, over population has given birth to poverty which is the cause of many other problems. Poverty causes malnutrition to poor families and this pushes the poor people towards crimes which lead to the disintegration of the society. Therefore, the government should take radical steps to control overpopulation.</p> <p>Secondly, overpopulation is also a trouble to women. A woman who gives birth to many children becomes unhealthy and has to work too much to take care of them. In this way she also becomes sick sometimes and the children also face problems because of their mother's illness.</p> <p>Also, if a poor man has too many children he cannot give them good food, good education, or proper housing and also keeping children in good health becomes difficult for him. This increases his problems and he may start doing corruption in whatever work he is doing.</p> <p>This shows that over-population causes many social problems. In Saudi Arabia, which is considered to be a very rich country, increase in population has also created many social problems. Our</p>	<p>Addition Rearranging Deletion</p> <p>Addition Rearranging Deletion</p> <p>Addition Reshuffling</p> <p>Addition Shuffling</p> <p>Addition Shuffling</p> <p>Addition</p>
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<p>their population by imposing taxes always make progress and the case is opposite for the countries which don't have proper system to control population.</p>	<p>government has no plans for population control. In my village a policeman has four wives and he has total 38 children. All his wives have bad health and most of his boys are fighting with each other and also with other children in the area.</p> <p>Moreover, if the country has overpopulation there is no balance between the resources and requirements of the people and many problems arise for the government. Examples of developed countries such as China, Japan, UK, USA, etc., are in front of us. The main reason behind their progress is that they have been able to keep a balance between their resources and their expenditures. On the one hand they have expanded their resources by the use of technology, and on the other they have learnt how to control the growth of population. China is a good example. It has made remarkable progress by using technology in every field of life and producing mass industrial goods. At the same time it has taken serious measures to keep its population in controls and has imposed tax on the birth of every newborn baby. Therefore almost all the families in china have one child on average. On the contrary, Asian countries such as India,</p>	<p>Deletion</p> <p>Addition</p> <p>Reshuffling</p> <p>Addition</p>
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	<p>Bangladesh and Pakistan have huge number of masses living under poverty line. They have made a lot of progress but they are still in trouble because there is no control over the increasing population in these countries.</p> <p>In the end, I would conclude that the countries which control their population by imposing taxes always make progress and the case is opposite for the countries which don't have proper system to control population.</p>	<p>Addition</p> <p>Deletion</p>
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Corroborated by Participant 6’s teacher, the major differences found after comparing the two texts (draft and final) are provided below.

- 1. Participant 6 added a quotation in the beginning to support his controlling idea.
- 2. He reorganized the second paragraph in the final version, dividing it into smaller paragraphs with one main idea each and adding supporting sentences appropriately.
- 3. He added a paragraph to express his point of view about how overpopulation is adversely affecting the social structure of Saudi society. Keeping in view the conservative Saudi society, he very boldly exposed his own society.

Having found the main differences, I looked at the comments that Participant 6 received on his first draft. Some of the feedback he received from his peers which he used to revise the final draft is presented below. The peer feedback suggested revisions in the structure and organization of the paragraphs for achieving clarity and supporting and/or

disagreeing with an idea and suggestions to change or revise it. We see that Participant 6 added a quotation in response to feedback 1; split up the second long paragraph into shorter paragraphs in response to feedback 2 and 4; and asserted and elaborated his own point of view regarding overpopulation while responding to feedback 3.

1. Your essay looks fine but I think you wrote it quickly. Please revise the introduction paragraph. If you add a quotation in support of you opinion it will make it strong. Also you have not arranged the paragraphs in the right way. Please make clear the paragraphs.

2. I agree with Ali about division of paragraphs. Your second paragraph is very long and it has many idea. You can distribute into smaller paragraphs and focus on one main idea in one paragraph.

3. Your essay is fine but I am not agree with your opinion. Saudi Arabia is a rich country and the area is big and the population is small so we can have more population.

4. I like you essay but there is a problem. When I read it the second paragraph gives reasons for which you said overpopulation is not good. My advise that please arrange your reasons in separate paragraph and add more information to prove your opinion.

In the interview, the reasons why and how Participant 6 made the revisions were explored. He said he wrote the first draft quickly because of the time limitations and was not satisfied with it. After receiving peers' feedback through the online forum, he found some useful advice which compelled him to make the revisions. When asked if the

revisions were all initiated on peers' advice, he said, "Most of them were made because the peers suggested some useful additions. I made some on my own when I was revising the draft and found some mistakes". So it is very probable to say that revising suggested by his peers seems to have led Participant 6 to make further revisions, which he may not have made without the peer feedback.

As pointed out above, we see from the finished draft that Participant 6 took all the points into consideration exemplified in the above examples. Comments like these seemed to help him in the way he made modifications and the areas he identified to pay special attention to. He improved the overall structure by separating ideas into different paragraphs and added appropriate details to support his view point. During the interview he remarked that he tried to show why overpopulation even in rich countries like Saudi Arabia can also cause social problems in response to the third feedback quoted above. His reaction to the third feedback also suggests that he was very thoughtful and reflective while revising. He did not simply follow all his peers' suggestions. Instead he took time to critically assess peer feedback before deciding to make or not make changes.

However, Participant 6 expected still more from his peers. "I am happy with the feedback because it helped me to improve my essay. But I think my class fellows should not only just say what they liked and what they did not like but also tell me why they like or did not like something. In this way I think you can improve it much more." In the discussion on students' perceptions about peer feedback activity, this lack of critical feedback will be discussed further.

4.3.2 Discussion (Example 2, Participant 2)

Let's have a look at another essay, this time by Participant 2. Both the first drafts and final versions are presented to see what revision can be traced. It can be seen that not many

revisions were made by participant 2. He wrote an essay in response to the question: *You are required to write a biographical essay (450-500 words) about any person. A biographical essay tells about the life, achievements and major events of a person's life. It may be too difficult to tell the story of someone's entire life. So you may focus on just a few important and interesting events of a person's life. You may talk about a person's personal life or professional life or both. Again, you may take a positive, negative or a neutral position about the person you are writing about.*

First Draft	Final Version	Types of revisions
Many people are famous in this world because many reasons. Some are famous because they have a lot of money like Bill Gates. Many successful people like scientists, presidents, kings players and so on. I write about the biographical of Yasir Al Qahtani born 10 October 1982 a Saudi Arabian footballer who plays as a striker currently plays for Al-Hilal FC in Saudi Professional League. He was also captain of the Saudi Arabian national team. In 2005, he became the most expensive Footballer in the history of Saudi Arabia moving to Al-Hilal for a record of 23 million Saudi riyal.	Many people are famous in this world because of many reasons. Some are famous because they have a lot of money like Bill Gates. Many people are famous because they are successful like scientists, presidents, kings and players and so on. I am writing about the biography of Yasir Al Qahtani. He was born on 10 October 1982. He is a Saudi Arabian footballer who plays as a striker and currently plays for Al-Hilal FC in Saudi Professional League. He was also captain of the Saudi Arabian national team. In 2005, he became the most expensive Footballer in the history of Saudi Arabia moving to Al-Hilal for a record of 23 million Saudi riyal.	Addition Addition Addition Addition Addition Addition Addition
He was born in a small village in the Aseer Province and went to school there. His tribe is very famous in Arab countries, is biggest tribe. When he was young and study in school the village he played football. He speed very fast and his teacher and friend think he was best in school players. When he went high secondry school his teacher said you played for the school team and the teacher his name was Mubarik made him team member for school	He was born in a small village in the Aseer Province and went to school there. His tribe is very famous in Arab countries. It is the biggest tribe. When he was young and studies in the village school, he played football. He speed very fast and his teacher and friend think he was best in school players. When he went high secondary school his teacher said he should play for	Addition Addition Addition Addition

<p>team. Then he played for the secondry school team and won many matches in the school. Every body loved him. He was popular in the school and the region and when the Saudi national schools champion ship he played and the Al Ahli coach liked him very much and said to you join my club and he joined the Al Ahli club and he went to Riyadh for living there and playing for the Al Ahli club. In Riyadh he played in Al Ahli for one year and then he was joined the Saudi Arabian national football team. In the first year he played national league he scored the second best goals in the tournament and that is why he got in to Saudi team. He became very popular player and every one liked him and every club want him. He became rich because he got a lot of money</p>	<p>the school team and the teacher his name was Mubarik made him team member for school team. Then he played for the secondary school team and won many matches in the school. Every body loved him. He was popular in the school and the region. When the Saudi national schools champion ship he played and the Al Ahli coach liked him very much and said to you join my club and he joined the Al Ahli club and he went to Riyadh for living there and playing for the Al Ahli club. In Riyadh he played in Al Ahli for one year and then he joined the Saudi Arabian national football team. In the first year he played national league he scored the second highest goals in the tournament and that is why he got in to Saudi team. He became a very popular player and every one liked him and every club wanted him. He became rich because he got a lot of money.</p>	<p>Addition</p>
<p>He went to England for coaching and then after some years he made the captain of Saudi Arabian team. Every one in the Arab countries loved him. His best match was against Egypt in which he goaled three times and every one was very happy from his performance. The King also was very happy and gave him special award and a house in Riyadh. After that Al Hilal club offered him 23 million Riyal and he was the very expensive football player in that time. He is playing in the forward position in the center always and very strong and powerful player. I love him and also my father and my brothers. Whenever there is match between Saudi Arabia and other country team I always see it. I also saw two matches in the stadium when he played in the Saudi League matches in</p>	<p>He went to England for coaching and then after some years he was made the captain of Saudi Arabian team. Every one in the Arab countries loved him. His best match was against Egypt in which he goaled three time and every one was very happy from his performance. The King also was very happy and gave him special award and a house in Riyadh. After that Al Hilal club offered him 23 million Riyal and he was the very expensive football player in that time. He is playing in the forward position in the center always and very strong and powerful player. I love him and also my father and my brothers. Whenever there is match between Saudi Arabia and other country team I always see it. I also saw two matches</p>	<p>Addition</p>
		<p>Addition</p>

Jeddah and Riyadh.	in the stadium when he played in the Saudi League matches in Jeddah and Riyadh.	
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It is evident that Participant 2 only made some additions and corrections. We can also see that all the additions made in the revised versions are corrections of errors below sentence level related to language not the content. A closer look shows that there are a large number of syntactical errors. At some places he added the missing verb, article, preposition or a missing subject and at others he corrected a word or two. There are a number of structural errors (that is, errors above sentence level), which despite being pointed out in peer feedback, Participant 2 did not correct. We might speculate that this is perhaps because of time, due to laziness or lack of ability.

Some examples from the peer feedback which was provided on this essay are presented.

In the first sentence you wrote "because many reasons", you can correct it if you add 'of' after because. Next, in the second line you wrote "Many successful people like scientists" is not very clear. I think it should be "Many people are famous because they are successful". In the third line you wrote ". I write about the biographical of Yasir Al Qahtani", which may be corrected like "I am writing about the biography of Yasir Al Qahtani

The above is just a small extract from the feedback of one participant. Of all the errors pointed out in the feedback, Participant 2 only corrected the below sentence mistakes, where peers told him exactly how to correct them, but did not make more complex improvements at sentence and paragraph level.

We see that none of the points raised in the following feedback was addressed by Participant 2.

You essay is very interesting. I also like Yasir Al Qahtani. You gave a lot of information about his life. I suggest if you make some changes in the structure you can improve it. First of all, you may like to revise the paragraph structure. You may divide them into about small paragraphs with main ideas like his early school life, his high school and club life and then his time in the Saudi team. Because it is a biographical essay, it would be a good idea to provide dates or mention the year in which important happened in his life which you have pointed out.....

When asked why he didn't consider revising his essay accordingly, Participant 2 replied:

I added all the corrections but some students were giving feedback which difficult and I am not able to correct it.

I observed that Participant 2 was among the students with a comparatively low English proficiency level. He corrected what was already corrected for him by peers in the feedback. The rest he left. His reason was that he found it difficult to handle. This illustrates how a few students could not revise their essays because of their low English proficiency level. Low level of English proficiency was also evidenced during the interviews, when Participant 2 and Participant 4 frequently resorted to speaking in Arabic when they found it difficult to express themselves in English. It is pertinent to mention here that peer feedback has its limitations if students' writing skills are too weak. On the other hand, peer feedback was still useful in that Participant 2 was able to go through and pick out the errors he could correct.

In the preceding discussion, by focusing on two essay examples, I showed how two students treated the computer-mediated feedback received from peers and revised their essays. The first example of Participant 6 showed that some students revised their essays both at the sentence and paragraph level. While doing so they also reflected critically and due to this were able to come up with a few revisions on their own. Others like Participant 2, who were low in their English proficiency level, also made some changes as suggested by the peer feedback, but their revisions were mostly below sentence level. This implies that peer feedback was indeed helpful to students in revising their essay drafts, to varying extents. As pointed out earlier, students with low proficiency level may not be able to provide substantial feedback in terms of suggestions for revisions, but they could at least benefit from their peers feedback for their own revisions. This seems to be explained by the idea of Zone of Proximal Development (ZPD) by Vygotsky (1978) according to which, the zone of proximal development is the distance between what a person can do on his or her own and what he or she can do with the help of others. In the same vein conforming to the social constructive parameters, such learning doesn't entirely occur within the individual's mind but, rather, is a product of social interaction with other individuals. Thus what is learned and constructed depends both on the shared experiences and on each member's efforts in the group. Therefore, from the social interactional perspective, the findings confirm that students of low ability gain from the ones with higher ability than theirs. In such an environment where the collaboration among students takes place, the opportunities for students' learning increase.

4.3.3 Types and quality of peer feedback

In this section, the types and quality of peer feedback are discussed. The type of feedback and the type of corrections elicited through CMC appear to be in the main quite limited to issues of spelling and sentence-internal grammar. So, CMC is good at helping learners negotiate such aspects of academic literacies - but learners may need more guidance and practice to improve their English language proficiency before they can use CMC to improve aspects such as discourse structure or other genre conventions.

Of the ten participants in the focus group, two provided feedback on only one of the four essay assignments. Four of them provided feedback on all the assignments but their feedback consisted of comments that were usually supporting and approving the ideas of their peers and some suggestions for correcting structural errors of spellings, grammar and punctuation, often below sentence level. The reason for their somewhat limited feedback could be attributed to the fact that many students did not know how to offer substantial feedback other than pointing out some basic grammatical or below sentence level problems due to their own low proficiency level. Since they were being taught correct sentence structure in the face-to-face classes, they were quick to locate such errors and pointed them out in the essays of their peers. This is again further evidence of the scaffolding needed to help students practice what they were taught. In the interviews the students admitted this. They also thought that providing constructive feedback addressing issues of discourse structure or other genre conventions was not easy and they needed clear directions and guidelines to do that. The remaining four participated more actively. Moreover, their feedback was significant because they provided constructive suggestions to their peers which went beyond language error correction, like improving aspects such as discourse structure or other genre conventions.

Such feedback was mostly incorporated into the final drafts of the students except those like participant 2 who were presumably at a low proficiency level and were daunted by the effort needed to make such revisions.

The feedback provided by peers in the forum activity dedicated for this purpose can be divided into three main types. The most recurring of all could be described as approving and encouraging what the writer had stated in their essays. This is demonstrated in the following quotes taken from the feedback provided by Participant 10 to different peers:

Salam to you Abu Ali. I like your essay on the bad effects of pollution. Your introductory paragraph is very good. You have nicely summed up the bad effects of pollution in this paragraph—‘The increase in the junk all over the world has very adverse effects on the environment, nature and the whole ecosystem. The accumulation of dung and waste has threatened the nature has affected a large amount of wildlife and has been the cause for the spread of many harmful and fatal diseases, which not only affected the animals but also have showed in their marks on the human race.’ I am strong supporter of this idea and I like all your essay.

I agree when you write that rural life is better than urban life. You given good examples of the good rural life. Actually I reminded of my own childhood days when I used to lived in the village. I still remember some of the things, which are deeply rooted in my thoughts. I can still recall the freshly made breakfast, which came from home held chickens and cows. I believe that such a wonderful meal is nowhere available in the city.

Like you I am in favour of coeducation. I agree when you say—' Coeducation has been very advantageous, where ever it came forth and has played a very vital role for the development of the human race especially woman. Due to coeducation women gained the confidence to come forth and to participate in different activities covering almost every field of human life.' I want to say that our government should also allow coeducation but I know religious people will not allow that.

It is evident from the above quotes that Participant 10 encouraged and supported his peers. This type of feedback may help peers build their confidence which is indeed a social benefit of CMC. In the quantitative data, presented in Section 4.2.3 on the frequency of discourse functions, we see that supporting and confirming was the second largest type of discourse function used both in the synchronous and asynchronous modes—12% and 16% respectively.

The second type that came up was mainly encouraging and supporting with one or two suggestions for revisions by adding more details or specific information. To give supporting comments and then a criticism is a good practice. It is a very positive and encouraging way to facilitate learners, encouraging them to do more at the same time bringing out weaknesses. The quotes below represent that category.

I like your essay how to control pollution. You suggested very good ways to control it. I agree that the government should to do measures to end it. It is the responsibility of the government to check that no pollution is caused by people and the big companies. In the addition I think people are also responsible to help government to controlling it. Also people can not throw waste things in the street and in the road. Many persons throw empty water bottles and cans on the street. Also in parks they make picnic and leave the

things in the ground. I think you can also write this in your essay.

Hello Ahmad, I like your essay about the differences between city and village life. You have also added very nice quotations which make your essay very effective. The quotation that I like very much is "In character, in manners, in style, the supreme excellence is simplicity". However, it would be a good idea to write the name of the person who said that and when he said that. This is called reference and it is very important to do that in your essay.

The third type of feedback which occurred rarely aimed at pointing out structural errors aimed at correcting spelling and sentence-internal grammar. Here are some examples:

The third sentence "The causes of malnutrition is many" has a subject verb agreement error. The subject of this sentence is 'causes' which is plural, so you use plural verb which is 'are'.

Another student wrote:

Your sentence "The writer told that he went to the hospital to visit his sick mother, talk to her doctor and saw how she was responding to the medicine" is wrong. I think the verb 'saw' is wrong, you should use 'see' here because it is an infinitive related to the phrase 'to visit.... talk...and see.

To conclude, only some students pointed out structural errors at both sentence and paragraph levels. Overall the feedback was mostly encouraging and supporting the peers and occasionally contained small pieces of practical or critical advice which helped students revise their essays both at the sentence and paragraph level. As the teachers pointed out, the quantity and quality of feedback which they expected in the peer

feedback forum was much less than their expectations. Dr. M, the Arab speaking instructor gave a plausible explanation for this:

I feel this type of activity needs a high level of language proficiency in addition to a lot of practice. Since most of the students are not competent enough in English and the use of Blackboard® LMS is relatively new, so the students' hesitation in participation. We should also consider that providing constructive feedback is not easy and the students need to be properly trained for that. I should admit that the students were not specifically trained for this. The only guidance they had was just a classroom lecture and one synchronous discussion on the issue of providing feedback.

Mr. K expressed similar views. He remarked:

I think to expect concrete and practically useful feedback from these students is asking for too much. They have so many problems at basic language usage level that an essay of four to five hundred words creates jitters for most of them. And asking them to review essays of peers, a few of them much superior in English proficiency level, probably creates a feeling of uneasiness. You see they know their own weaknesses and perhaps find it unreasonable to comment on an essay which they may consider of a much superior quality than their own.

Finally, the feedback found in the peer feedback forum mostly consisted of supporting and confirming what peers had written. Some feedback helped students revise the surface level features of sentences and grammar structures. We may infer that such feedback and corrections elicited through CMC is restricted to surface level issues. So, CMC in the context of my study was good at helping learners negotiate such aspects of academic literacies - but as the teachers suggested learners may need more guidance and

practice before they can use CMC to improve aspects such as discourse structure or other genre conventions.

4.3.4 Students' perception of feedback activity

The aim of the second part of the question was to ascertain "How do students perceive the role of feedback provided via CMC in producing their final drafts?" Students' interviews constituted the main source of data.

During the interview, the participants mentioned that the peer feedback comments were useful in improving the quality of their essays in terms of the essays' overall structure, sequence of ideas and reduction of language errors. However, some of them were not satisfied with the quantity of comments provided by peers. One participant commented that he did get some useful feedback on his essays, but his revisions were mostly affected by his own critical reflections on the first draft and his own desire to improve his essays.

The participants reported some benefits and some drawbacks in the way computer-mediated peer review was used in this study.

Benefits

The EFL students pointed out that the main benefit of written online peer feedback was that it was easier to highlight the problems or concerns, or provide comment on their peers' essays than in a face-to-face set up. They felt they had more time to reflect and then construct their feedback correctly. Most of them agreed that they would prefer written online feedback to face-to-face. Here is how Participant 3 described his feelings:

If I see some mistake in my class fellow's work it is hard to tell him about it face-to-face. I cannot say to him that this is not correct. He will not like it and he will take it personally. But when I do it in the forum I have more time and I can say anything without fear and I think my class fellow will also not take it personally. Also I can write some nice points he made in the essay.

Participant 8 shared similar views. He was among the ones who would mostly agree with or support his peers.

You know my English not good and I am feel difficulty in speaking but I can write comments more easy because more time for that and then I tell my friends what is good and what I like in their essay. Also I get idea when I read my friend's essay and I use them for write my own essay.

His last utterance in the above quote highlights the fact that learners were benefitting from one another through this activity in terms of getting ideas to write their own essays.—This is significant because I did not perceive that reading peer-feedback on others' essays could help generate ideas for their own essays. So another benefit of online peer feedback is that it assisted some learners in generating ideas. Participant 6 confirmed this point further in his response:

Online peer feedback is very good for me and it is easy. I feel difficult when I am commenting and therefore I was not give many comments but I read what others write and then it help me. I think more and find good points to write my own essay.

The above example also shows that peer feedback provided students opportunity for critical reflection. Participant 6, whose essay has been discussed in detail in the previous

section, also said as quoted in the previous section that while revising his essay in the light of peer feedback, he was able to think more and came up with newer ideas. So peer feedback induced some critical reflection among some students also.

The following excerpt demonstrates the third benefit. That is, online written feedback was more 'tangible' in terms of it being available to the writers all the time. The students could return to it whenever they wanted and benefit from it. Participant 1 said:

When someone is giving feedback face-to-face I cannot remember all the points. But when it is in the forum then I don't worry because everything is written and I have time to view it and improve my essay.

Drawbacks

When asked about the drawbacks of online peer review, most students remarked that they found it difficult to think of any, except three of them who pointed out two major drawbacks. Participant 10 felt that feedback in the classroom was better because it contained contributions from the teacher too. He said:

When the essay is discussed in class there is more feedback because all the students are participating. In the end, the teacher also sums up what the class fellows have said and also provides some very useful comments which I can note down. So I think it is better than online peer feedback because first of all the teacher doesn't give any feedback in the forum. Also the students give very few good suggestions and most of them only praise it.

Another drawback related to the nature of online discussion where the communications between two or more parties were delayed or stopped. Participant 9 particularly complained about the frustration it caused him.

I posted my essay about ten days before due date so that my peers have enough time to respond, but in five days there were only a couple of supporting comments. It didn't help so I told my friends politely to read it and give some suggestions. I got some more comments which helped a little but some comments were not clear and I asked for clarification but I didn't get anything back. May be he forgot to answer me, maybe he didn't know the answer himself or maybe he didn't have time.

Among the interviewed participating students, seven held a positive attitude towards peer reviews; one, namely participant 7, held a negative attitude; and the remaining 2 were not sure whether it helped them or not. Participant 7, who was probably daunted by the amount of time he thought he had to assign for peer review activity, expressed his views as follows:

The advantage of peer reviews is that the writer and the reader can interact face-to-face. The reader can ask why the writer wrote this way and so on and the writer can clarify. If you are reading a magazine, it is one way: you can only accept what was written. And you can also learn what other people are thinking. But sometimes I didn't agree with the suggestions given by my partner or didn't think the suggestions were practical. The effects of peer reviews are limited. One of my relatives also had a class using peer reviews. He said the teacher was not doing his job. I don't think peer reviews should be done in class because then English writing class will not be like English writing class. Teachers' lectures should be the priority of an English writing class. Peer reviews take too much time. . . . Since it is not for English writing classes, there is no need to do it too many times. A semester is very short. If we have to do it every week, it is too much trouble.

Although it is hard to tell in the first sentence whether he means that students can interact face-to-face through CMC or that the only advantage of peer review generally is the face-to-face interaction and that is lost with CMC, what is interesting here is the student's beliefs about teaching. He favors what could be described as a traditional view of the teacher as the one who provides knowledge for the students to learn. This seems an interesting point and is evidence of the fact that students' use of CMC is being shaped by their beliefs about what teaching and learning should be like. From his last utterance we may deduce also that he was probably daunted by the amount of work he had to put in for forum activities using CMC. As discussed in the previous section, training is essential to make computer-mediated peer review effective. The example of the student given above confirms the vital role of the teacher in this regard and echoes Liou & Peng (2009) who highlighted the crucial role played by language teachers when incorporating internet technology into writing instruction (see Chapter 2, Section 2.3.3).

4.3.5 Summary of findings

The use of CMC in the asynchronous peer review forum on academic writing essays was considered beneficial by most students despite the fact that a few of them thought it was not sufficient in terms of both quantity and quality. CMC was seen to be beneficial by the students on three counts. Firstly, it helped EFL learners successfully revise their essays in a relaxed way. They felt that they could revise their essays without worrying about their language limitations and it was easier than in face-to-face communication for them to keep track of the changes and organize their ideas. Secondly, they found it easier to comment on their peers' work, especially if there were some errors or mistakes to point out and thought the student whose essay was reviewed would not take it personally. In some cases, it also helped learners to generate ideas for their own essays after they read

their peers' essay and comments provided on those. Thirdly, they also valued the potential of CMC in improving their academic literacy with the help of written online feedback. Students did incorporate the feedback in their final drafts to a large extent, as seen in Section 3.3.4 when this was traced between the drafts. Nevertheless, a few students were not fully satisfied with this mode and felt the need of oral communication in addition to the CMC. They thought that peer feedback in face-to-face classroom was more substantial than in the forum activities. They also felt frustrated on certain occasions when they expected some peer to respond but he did not and so their queries remained unanswered. One student thought that the time required to complete peer review activity was too much. It may be implied that despite some perceived disadvantages, online peer review activity fostered a collaborative environment in which students helped each other in revising their drafts. Their participation showed that they were willing to cooperate and collaborate with one another and their positive perceptions revealed that peer feedback afforded by CMC is very useful from all the three perspectives, the cognitive, the psychological (including socio-affective factors) and social. Moreover, comparing the online peer review activities with those observed in the face-to-face classroom, I feel both the greater amount and the higher quality of feedback provided in the asynchronous forums were significant. This may be attributed to the fact that while providing feedback via CMC asynchronous writing students had more time to reflect and articulate their thoughts, in addition to affording a distancing to the participants so that they could comfortably critique or comment on their peers' work. So collaboration and interaction via CMC were enhanced.

4.4 Findings in relation to the Third Research Question (CMC and learners' attitudes)

This part aims at answering the 3rd research question: "What are students' attitudes towards collaboration, writing, and CMC through the use of Blackboard® LMS?" The data

set used to answer this question included the questionnaire and interviews which, along with sampling and participants have been elaborated in the methodology section (Chapter 3).

4.4.1 Reliability of the questionnaire

By using Cronbach's coefficient alpha, reliability of all the 44 items of the questionnaire was measured. Table 4.7 below shows the alpha reliability of all the different parts (presented under dimensions). The results show that all the items are well connected and 36 out of 44 total items have a very high reliability coefficient. Normally a value of .700 is considered a satisfactory value in the field of humanities and education. 8 items related to Section 1 have the lowest alpha value, but this may be acceptable in view of the high reliability of all the 44 items which is 0.986.

Table 4.7 Alpha reliability

Dimensions	No of Items	Alpha
Advantages	12	0.8986
Disadvantages	12	0.9001
Section 1	8	0.5853
Section 2	12	0.8856
Overall reliability	44	0.986

4.4.2 Data analysis

For the quantitative data collected in this study, I carried out a series of statistical analyses. The responses to student attitude scale were encoded and transformed into numbers and scores that could be estimated using the SPSS statistical analysis software. I learnt to use the SPSS software and was able to encode, enter data and analyse the data using SPSS tools. I applied ANOVA test to find out the p-values of the questions by grouping the responses, here I select the 95% Confidence Interval (C.I). It means that any p-value less than 0.05 is considered significant. Since my research approach is exploratory

and descriptive in nature, I decided to report the reliability of the scale, present the means, standard deviation and p-value of various variables and describe their significance as I go through the result.

In addition to presenting the quantitative findings, I have also provided findings from the qualitative data collected in the form of students' interviews. Bell (1999, p 135) points out the benefits of interviews with regard to the interpretative information they offer. To tap into the full extent of the participants' perceptions and ideas during the interviews, I sought assistance from an Arab speaking colleague to be present during the interviews so that if a participant found it hard to express himself or understand my question, the colleague could translate and the candidate (interviewee) may continue in Arabic. Consequently the presence of an Arabic speaking colleague could also help reduce the anxiety of the participants, whom I wanted to feel relaxed and comfortable during the interviews. What I had anticipated about code switching was correct and some students did resort to it during the interviews. Therefore, the interviews were transcribed with the assistance of that colleague.

The data analysis that follows is divided into three parts in line with the three parts of the questionnaire as mentioned earlier. I discuss the results after presenting the descriptive analysis of each part in order to maintain contextual clarity. In addition to reporting findings from the quantitative data, I also report the findings from the interview data to see if there are any differences between the qualitative and quantitative findings. Therefore, the three sections of the second and third parts are further divided into sections on quantitative and qualitative findings. At the end, a summary has also been provided highlighting the main findings and their implications.

4.4.2.1 Students' profiles (first part)

The first part of the questionnaire is about the participants' personal information. This information is geared to determine students' previous experience of computer and internet use, language study experience of English as EFL and other personal details.

Descriptive statistics

Forty-four questionnaire responses were used as data. Descriptive statistics regarding the demographic parameters of the sample obtained the mean age of the sample as 23.56 years while the standard deviation (STD) is 2.15. All participants are male. The descriptive results have been summarized in Table 4.8.

Table 4.8 Information about usage of computer peripherals / internet

Sample size N=44

Information about usage of computer peripherals / internet		no of participant	Percentage
Do you have a computer at home?	Yes	33	75.0
	No	11	25.0
Do you have access to the internet at home?	Yes	18	40.9
	No	26	59.1
How long have you used Blackboard® LMS?	6 Months	6	13.6
	1 year	18	40.9
	More than one year	20	45.5
How long have you used computer?	3-5 years	26	59.1
	6-8 years	18	40.9
How many years have you studied English as a foreign language?	Up to 8 years	39	88.6
	More than 8 years	5	11.4
Where do you prefer to use the internet for e-learning?	At home	6	13.6
	At the university	5	11.4
	at internet café	33	75.0

Significant facts about personal information, as the above table indicates, are that although 74% participants own computers, only 42% could access the internet at home. Because of that, 75% showed a preference for working on e-learning assignments at internet cafes. All participants had over three years of computer experience and all had over 6 months of Blackboard® LMS experience. Regarding their experience of English, 88% started studying it in the sixth grade, which is the last year of their primary schools and 18% studied it from grade 1. The information is significant because it helped me pinpoint individual participants' experience of computer technology and explore its relationship with their perceived attitudes towards its use in acquiring academic literacy. During the interviews (presented in Section 4.5.1) the significance of these findings will be discussed further.

The second part of the questionnaire was further divided into two sections—perceptive **advantages** and **disadvantages** of academic writing experience through the use of Blackboard® LMS. Overall, the questionnaire showed slightly more agreement with the suggested advantages of CMC, although there was much variation in opinion.

Before I go on to present findings of the quantitative data, it is pertinent to point out a couple of concerns with the questionnaire data. For example, unlike interviews, the people conducting the research may never know if the respondent understood the question that was being asked. Also, because the questions are so specific to what the researchers are asking, the information gained can be minimal. It was for these reasons that I also decided to interview students. The findings from the interviews are given after the findings from the quantitative findings under the heading "Findings from qualitative data" in each section below to ensure that a complete and comprehensive picture of the students' attitudes can be presented.

4.4.2.2 Advantages of academic writing through CMC (second part)

a. Findings from quantitative data

All 44 participants' perceptions about CMC vis-à-vis its advantages are presented in Table 4.9 In order to analyze differences between the participants' perceptions about the advantages of CMC in their academic writing, a discussion of the significant variation is presented after the table. A mean value of more than 2.5 indicates a strong preference of the students for a particular item or the positive attitude towards a statement/question. It means that a majority of the students prefer to 'agree' or 'strongly' agree with a statement or question on a five point scale. If standard deviation (STD) is more than 0.5, it means the variation is high. It helps understand the variability in a set of data. Specifically it helps to see how close values in a data are to the mean. A large standard deviation means that the data includes a wide range of values. A P-value above 0.05 indicates that the variance is acceptable and any value less than 0.05 shows significant variation in participants' responses. So in the following discussion on the interpretation of quantitative data, I have focused on the mean values, standard deviation and P-values to show significant agreements and/or variations in students' responses to various factors presented in the questionnaire.

Table 4.9 Perceived advantages of CMC

Questions	Mean (on a scale of 1-5, where 5 is strongly agree)	Std. Deviation	P-value
1. CMC is more convenient to me than face-to-face learning.	2.89	1.185	0.235
2. CMC improves communication between students and students, and students and teachers.	3.57	1.021	0.148
3. CMC through Bb makes teaching and learning more effective.	3.41	0.996	0.259

4. I find Bb interesting and useful.	3.43	1.043	0.265
5. I like Bb because I can work according to my own pace.	3.66	0.987	0.0001
6. Bb Forum helps me to develop proficiency in English Writing techniques and mechanics.	3.5	1.11	0.222
7. Bb Forum helps me to share my work with other class fellows and obtain their feedback.	3.73	0.899	0.258
8. I benefit from the feedback given by my teacher and my class fellows through Bb.	3.77	0.912	0.458
9. Bb assignments help me to develop computer and internet skills.	3.98	1.11	0.145
10. Bb assignments help me to develop the knowledge of the writing process.	3.77	0.961	0.148
11. Teachers' and peers' messages and postings presented clear and concise arguments for academic writing tasks	3.61	0.722	0.128
12. Teachers' and peers' feedback were important for increasing collaboration	3.84	0.861	0.654

The highest agreement shown in Table 4.9 is for the statement “the Bb assignments help me to develop computer and internet skills”, with the mean =3.98, and STD=1.11. Similarly, “Teachers' and peers' feedback were important for increasing collaboration” presented a mean =3.84 and STD=0.861. In contrast the lowest agreement is about “CMC is more convenient to me than face-to-face learning” with the mean =2.89and STD=1.185. The most significant p-value (less than 0.05) is in response to “I like Bb because I can work according to my own pace”. This shows that there is significant variation in the responses of this item. In relation to this item students’ opinion was divided significantly about their preference for Bb.

So we can deduce from their responses that most students had positive attitude towards Bb assignments as being conducive to developing their technology skills and increasing collaboration among students. They also held positive attitudes towards peer feedback and its benefits. Overall the findings suggest that students were positive towards the advantages of CMC, especially in relation to ease of sharing information, peer feedback, developing technology skills and knowledge of the writing process, and increasing collaboration. However the attitudes varied significantly towards the efficacy of Bb particularly in terms of it providing a self-paced working environment. The significance of these findings is mostly in relation to the socio-affective benefits, which as pointed out in the literature review section have not been as much explored as for example the cognitive or psychological benefits.

b. Findings from the qualitative data

During the interviews, participants reported advantages of CMC that comprised convenience in spelling and grammar check, learning patterns of recurring writing errors, reinforcing the writing process, and facilitating thinking skills.

Convenience in spelling and grammar check:

According to the interview data, all the participants stated that MS Word, the writing software, helped them correct their spellings and basic grammar errors by offering suggestions for correction. Participant 4 expressed his views about this as follows:

Writing my essay becomes very easy when I used the MS word because it automatically checks spellings and gives some suggestions for revising fragments with grammatical errors. So I write quickly if I have ideas. I don't stop to correct any error. First I finish my essay and then I look at the highlighted spellings and grammar errors and correct them.

Learning patterns of recurring writing errors

All the participants stated that the data recorded in the discussion forum for peer review helped them to recognize the patterns of their writing errors. This knowledge provided them the necessary skill of self-evaluation of their writing problems and they were encouraged to look for strategies for correcting their errors and mistakes. For example, Participant 3 expressed:

I had no idea before how many mistakes I made, especially in the use of parallel structures. Due to the online feedback provided in the peer review forum, I found out I have a lot of problems using parallel structures. So now I am more careful about it and whenever I have a doubt, I look it up in the grammar book.

Participant 10 said:

The peer feedback forum helped me a lot. I used a noun followed immediately by a pronoun as it is done in Arabic. But after this was pointed out by a class fellow in the forum, I took care and now I don't do this mistake. I also realized that I made many mistakes in run-on sentences. Sometimes I missed the subject and sometime the verb and this is also because I translated from Arabic to English. Now after I write I do self-check and self-evaluation to see if I make mistakes in run-on sentences or any place not logic. Then I post it online but I know my peers will help me know my errors.

Reinforcing the Writing Process

Five participants indicated that writing online helped them develop habits involved in the process of writing that included brainstorming ideas, writing drafts, revising, editing, and revising their ideas in print. Participant 1 expressed his experience as follows:

Our course book and the online writing resource of Perdue University showed me step by step the process of writing. This way I started by brainstorming , next wrote the first draft, revised it, edited it, and finally posted it. This helped me write

in a special way. I know it takes a lot of time to write an essay but once I finish it, I feel a sense of accomplishment.

4.4.2.3 Disadvantages of academic writing through CMC (second part)

a. Findings from the quantitative data

Section 2 of the second part of questionnaire presents **disadvantages** of academic writing experience through the use of Blackboard® LMS. Table 4.10 presents participants' perceptions about the disadvantages of CMC in their academic writing. Below the table a discussions of the significant variation is presented.

Table 4.10 Perceived disadvantages of usage of CMC

Questions	Mean	Std. Deviation	P-value
13. I feel isolated when I use Bb.	2.82	1.187	0.0001
14. Bb is difficult to handle and therefore frustrating to use	2.36	1.123	0.154
15. Slow internet connectivity is a major problem in using Bb.	3.57	1.228	0.258
16. I face technical problems when I use Bb, like difficulty in connecting to the Bb system, accessing peers work etc.	3.39	1.351	0.259
17. I prefer to learn from the book than from the website.	3.41	1.207	0.148
18. Bb tempts students to be dishonest (cheat).	3.02	1.229	0.365
19. I feel I will become asocial if I have to concentrate only on relearning.	2.89	1.017	0.321

20. Both synchronous and asynchronous interaction through Bb is less effective than face-to-face interaction in the classroom.	2.61	0.868	0.324
21. I do not have internet at home, so have problem using Bb outside of college.	2.75	1.416	0.214
22. I don't feel Bb helps to increase collaboration among students	2.68	1.095	0.159
23. Teachers' and peers' messages and postings were not useful for or relevant to academic writing tasks	2.61	1.243	0.157
24. I was not satisfied with the online peer communication	2.57	1.149	0.265

We observe that overall the disadvantages received slightly less agreement than the advantages. The highest agreement shown in Table 4.10 is for “Slow internet connectivity is a major problem in using Bb.....”, with a mean = 3.57, and STD= 1.228. Similarly, “I prefer to learn from the book than from the website” gives a mean = 3.41 and STD= 1.207. But the lowest agreement “Bb is difficult to handle and therefore frustrating to use”, shows a mean = 2.36 and STD= 1.123. Here we find a significant variation in the response of “I feel isolated when I use Bb” since the P-value is less than 0.05.

We can sum up from the above table that the disadvantages of CMC were mostly related to the technical issues associated with the connectivity of internet. Another important finding is that most students preferred learning from books to learning from website. This is significant because in the previous section I reported students’ positive attitudes towards the use of CMC via Bb, but despite the positive attitudes, students in this section showed that they liked learning from books more than learning from website. This apparent contradiction can be resolved if we see that the advantages perceived by

students are related to the social aspects of CMC, whereas the specific item on the ease of learning is related to the cognitive benefits. So we may conclude that students attributed more social benefits to CMC than the cognitive benefits. The significant variation in response to the item related to the isolation that may be caused due to working on Bb can also be explained in the same vein. This item is related to the socio-affective aspect of CMC, and the variance suggests that some students did associate socio-affective benefits with CMC while others did not. So we conclude that overall students' agreement was higher for the advantages than for the disadvantages and that the most agreed upon statements related to advantages from the social perspective.

b. Findings from the qualitative data

Students reported certain disadvantages of CMC through Blackboard® LMS Learning Management System during the interviews. The disadvantages included issues associated with Bb and conflicting feedbacks.

Blackboard® LMS issues

Most students complained about the editing feature in the Bb LMS present in the discussion board content. When they wanted to post comments on an essay for peer feedback activity, they couldn't insert comments like they could do in the MS Word. So they had to count the number of lines, refer to a particular phrase/sentence and then write the feedback. Sometime they had to copy and paste a whole sentence or even a paragraph in their feedback to refer to a mistake or idea. They considered it a tedious way of doing a simple thing that wasted a lot of time. Another problem was associated with the Elluminate Live software integrated in to the Bb LMS for synchronous discussions. Most of them had issues of connectivity whenever there was a live discussion

session. As mentioned in the previous chapter the teachers concerned only used the text chat feature. They didn't utilise the video and voice options considering the lack of synchronicity between voice and video. Chatting using only the voice medium also had issues of frequent broken voice and distortion. So they decided to use only the text chat feature. Even this, according to four students, had its own drawbacks. For example, all the four students complained that turn taking and maintaining the sequence of chat was difficult to follow as many students were posting simultaneously and the screen scrolled up before they could read all comments. Again, if they wanted to comment or ask something and typed it for posting, usually there would be something different or new going on in the chat box. So they had to type in some more text to refer to what they wanted to comment or ask about. Here is what Participant 6 said in answer to the question, "What difficulties have you experienced with using computer-mediated communication technology in the writing process?"

There were many problems but writing feedback on my class fellow's essays was more difficult. When I wanted to point out a mistake I had to count the lines and write the number of the line and also write a whole sentence or phrase and then tell what is wrong with it. This takes a lot of time and sometimes when I was in a hurry I did not write all the things.. Also discussion on Elluminate Live was difficult because sometime many students write something at the same time and I don't know who is talking about what. So I spend a lot of time to understand what was going on and when I wanted to contribute something, I had to refer back to the person and what he said, so I had to type more and my type speed is not good. Many times i did not say what I wanted to say because the discussion moved to some new idea and I felt if I say something now it will be not useful.

Conflicting feedback

Seven participants experienced receiving conflicting feedback from peers especially about grammar corrections, and ideas for supporting or arguing against a main idea. Consequently such feedback caused confusion and revisions took a lot of time. In the interviews, students pointed out that they had mix-ability online peers. So each peer gave suggestions and feedback based on their English language proficiency level and students often received contradicting advice with regard to word choice, grammar errors, and ideas/examples. In such a situation, they needed additional time to resolve the conflict/confusion before deciding to revise. Participant 8 responded:

I am confused when I get conflicting feedback because I am not very good in my English writing ...specially in grammar and vocabulary... and I often spend a lot of time finding from grammar book about the correctness of feedback and then decide to accept or reject feedback.

4.4.2.4 Learners' EFL efficacy perceptions (third part)

a. Findings from the quantitative data

This part of the questionnaire relates to students' experience of using English both in the traditional way and through the use of technology. This part of the question was meant to explore how the act of writing makes the author feel about their own writing ability, ranging from happy to unhappy. Table 4.11 presents participants' perceptions about their self-efficacy vis-à-vis English. It is followed by a discussion of the significant variations.

Table 4.11 Self-perceptions of EFL efficacy

Questions	Mean	Std. Deviation	p-value
25. I can express my ideas clearly in writing (in English).	3.75	0.991	0.245

26. I dislike writing in English.	2.27	0.949	0.148
27. I am happy with my use of vocabulary in written English.	3.66	1.098	0.001
28. I have no problem with grammar in written English.	3.25	1.164	0.258
29. I have no problem with organization in written English.	3.25	1.014	0.259
30. I'm good at writing (in English).	3.23	0.961	0.125
31. It is difficult to write in English.	2.61	1.083	0.325
32. I enjoy writing (in English).	3.5	0.902	0.658

The highest agreement shown in Table 4.11 is for “I can express my ideas clearly in writing (in English)”, with a mean = 3.75, and STD= 0.991. Similarly “I am happy with my use of vocabulary in written English”, with a mean = 3.66 and STD= 1.098. The lowest agreement is for “I dislike writing in English”, with a mean = 2.27 and STD= 0.949. Students’ responses to the item “I am happy with my use of vocabulary in written English” show significant differences as the P-value is 0.001. This suggests that students have a huge difference of opinion regarding this item.

We may conclude that most students were satisfied with their level of competence in English writing, although opinion was divided on the question of whether they liked or disliked writing in English and their command of English vocabulary. The overall impression that we gather from the table above in relation to the mean of items 25, 27, 28, 29, 30 and 32 (6 of 8 items) is that most students were satisfied with their level of competence in English writing.

b. Findings from the qualitative data

With respect to learners' self-estimation of their writing performance, 6 out of 10 interviewees felt that revision on computers is easier and more convenient than pen and

paper. In addition they felt that writing on computers helped them to correct spellings easily and increased their confidence and creativity.

During the interviews, I found that the learners' opinions about EFL writing did not vary much. Just one interviewee reported that he disliked writing in English, while no other interviewees had negative attitudes toward EFL writing. The interviewee who disliked EFL writing seemed to lack self-confidence and to under-estimate himself as seen in the excerpt below. He couldn't continue his interview in English and was the one who used Arabic most of the time.

Excerpt 1 (dislike)

Interviewer: Do you like writing in English?

Participant 2: Umm, not much

Interviewer: Could you give me some reasons for your dislike?

Participant 2: Umm, it's hard and grammar is too much difficult. (*Translated from Arabic*)

"Oh brother, I get so confused trying to remember the grammar rules, that my ideas get lost before I can put them into writing. Typing them into computers is even harder, so"

—Excerpt 2 (neutral attitude)

Interviewer: What do you feel about writing in English?

Participant 1: So so... I mean I am not very sure.... sometime I feel it is easy and sometime I feel it is difficult... may be the topic is difficult or easy, you know

This can be compared with participants' responses to item 29, where a high percentage of them agreed that they have problems with organization in written English.

While highlighting the issue of students' self-efficacy, three out of ten interviewees pointed out that either having their writing proofread or peer-reviewed, and having suggestions from others or simply reading others' writing did encourage them to learn and help them in developing their writing. However, 2 interviewees argued that having their writing exchanged or reviewed by others would have no effect on the

development of their writing. Learners who were against the practice of peer-reviewing had doubts about their own ability to evaluate the quality of their peers' work. Hence, they would prefer not to have their writing exchanged or reviewed by their peers.

4.4.2.5 Self-perceptions of EFL efficacy using Bb

a. Findings from the quantitative data

This part of the questionnaire related to students' experience of using English through the use of technology. Table 4.12 presents participants' perceptions about their self-efficacy vis-à-vis English writing using computers in general and Bb in particular followed by a discussion of the significant variations.

Table 4.12 Self-perceptions of EFL efficacy using Bb

Questions	Mean	Std. Deviation	p-value
33. I can write better essays when I do them on the computer.	3.07	1.043	0.257
34. Learning English reading and writing through a computer is fun.	3.27	0.973	0.154
35. Learning English reading and writing through a computer make me less anxious.	3.43	0.846	0.369
36. Computer-mediated language learning can promote my English literacy abilities.	3.34	0.914	0.258
37. Revising my written work is easier when I write it on computer.	3.59	0.844	0.0001
38. I'm willing to use an online discussion board if I have a question or comment.	3.61	0.895	0.214

39. Commenting and responding to others by an online discussion board helps me develop my thoughts and ideas	3.68	0.909	0.231
40. I feel that communicating by an online discussion is a good way to improve my English.	3.61	1.061	0.125
41. Blackboard® LMS is a good way to improve my English.	3.57	1.065	0.365
42. I feel that writing by computer makes me more creative.	3.7	0.904	0.232
43. I feel that using a computer gives me more chances to practice English than pen/paper mode of writing.	3.61	1.083	0.236
44 I'm more willing to participate in a group discussion on line than in the classroom.	3.5	1.131	0.234

The highest agreement shown in Table 4.12 is for “I feel that writing by computer makes me more creative”, with a mean = 3.7, and STD= 0.904. Similarly “Commenting and responding to others by an online discussion board helps me develop my thoughts and ideas” showed a mean = 3.68 and STD= 0.909. The lowest agreement is for “I can write better essays when I do them on the computer”, with a mean = 3.07 and STD= 1.043. However, the participants’ responses varied greatly in response to “Revising my written work is easier when I write it on computer” with P-values 0.0001.

We may infer from the above table that most learners felt that writing on computers enhanced their creativity and that peer feedback helped them develop their own thoughts and ideas. Despite the convenience of using BB for writing English, students’ perceptions significantly varied about the use of computers for revisions.

b. Findings from the qualitative data

Many students expressed during the interviews that online discussion forums helped them become active participants in their own learning activities and processes. Most students had positive views towards integrating CMC technology via Blackboard into their writing class. They thought that the discussion forum provided them with opportunities for negotiating and exchanging ideas about their essays with teachers and peers. Here is what Participant 5 said:

Ummh..... I think sample essays that were posted in the forum for discussion, comments by the teachers on my assignment and..... that site.... I forget it's name..... it was very good. I learned good techniques from there about writing different essays..... things like thesis statement, relevant specific details..... all were very useful.

Six participants conveyed that they got many new ideas and different perspectives from reading other participants' writings and feedback in the Peer Feedback and Brainstorming Forums. Compared to writing alone, online writing and discussions in these forums provided them multiple perspectives on revising and improving their writings. They felt their writing was improved and enriched by a range of new ideas about how to support their arguments with reasons, evidence, and examples. Participant 5 said:

Some of my friends give me different suggestions on how to organise my essay,.....hmm correct my grammar and revise my sentence structure, or choose a more suitable word in the online forum. So I get many new ideas on how to edit, revise and improve my writing.

Participant 8 stated:

I know that every person has different life experience and different environment so that every one think different things and has different ideas. The feedback is like

that also and every one share his own ideas. Due to this I get different and multiple perspectives. This way I feel how others thinking and I broaden my perspectives.

Eight of the ten participants expressed positive experiences about feedback activities. They felt that both while giving feedback or deciding to incorporate peers' feedback, they had to think critically. So their online postings facilitated critical thinking skills. By giving and receiving feedback online, participants were challenged to think more critically and deeply about how to make their writing more readable and acceptable to their peers.

Participant 1's comment expresses this notion:

Feedback and suggestions make me think deeply and critically about my arguments and ideas. This way I choose those ideas that match or support mine. Sometimes, when I need ideas I search on the google scholar and locate some research regarding my topic to help me think ...deeply... and make decisions.

Particularly participants with lower and medium writing ability said that through online feedback they were often helped by their peers with higher writing ability to reframe or improve their ideas. In addition, such participants accepted comments from participants with higher writing ability to reorganize or edit their essays because they thought higher writing ability participants knew English writing conventions better than what they knew. However, higher writing ability participants were not satisfied with the quality and quantity of feedback or suggestions. This is how Participant 6, a high writing ability participant, expressed his views:

When I write feedback to my peers, I think critically and try to give constructive suggestions making my suggestions comprehensible and justified. Especially when someone has written some very poor essay I have to be very careful so that I don't hurt my peers' feeling. I become cautious about my wording. But I feel a little bit

disappointed when I didn't receive considerable feedback or suggestions from my peers compared to what I give them.

All ten participants said that they felt reduced anxiety and increased self-confidence in online writing and discussion. They felt that they wrote to communicate and share their ideas with their audience using CMC through Blackboard® LMS. With the passage of time they were not worried about making mistakes or afraid that their peers would know and find their mistakes and errors. They felt liberated as it was an online environment and so they need not worry about losing face if they made mistakes in writing. Participant 4 expressed:

I take care to make my feedback or suggestion and my own essays without errors. I think critically and I give feedback and I am very conscious about my wording in writing. In real classroom, I..... we are..... too much worried about what will our friends think if we point out their mistakes, but online I never think that way because I am supposed to help my peers and share my views openly. So no one has ever complained about my..... frank comments and suggestions and I think all students think like that and feel that these forums are for exchanging ideas and negotiating differences.

Participants also felt more confident about their English writing after their experience of blended learning. Before the intervention, most participants had little or no confidence in their English composition. After having online writing and discussion experience, they thought they became more confident in their English writing and came to realize everyone was an expert in certain areas but novice in other areas. Participant 2, one of the weaker participants reported:

After one month I..... feel I am not worried about my writing mistakes and weakness because at the moment my readers corrected my mistakes or suggested

for enrich my ideas or content, I improve my writing. Now I feel I have better connection between thinking and writing and can write more..... fluently and more.....smoothly.

Participant 3 commented:

It is become very comfortable for me to write now. I don't worry about my mistakes because my peers always help me find out them and I can correct. It is okay.... to make mistakes in writing because other online peers also make mistakes and..... the more I write, the more we make mistakes, but..... also when others correct we learn more and reduce our mistakes. In fact, now I like my friends..... to give me a lot of feedback about my mistakes and give me suggestions for improving my writing and..... this helps to revise it.

4.5 Summary of findings

The main points that emerged from this attitudinal scale and interviews are:

1. Learners' experience of using computer, internet and Blackboard® LMS varied. Technical problems related to internet connectivity/availability and Blackboard® LMS Learning Management System (LMS) emerged as an important factor in influencing learners' attitudes towards its use.
2. Based on the quantitative findings, although a majority of learners preferred to learn using Blackboard® LMS, still a large minority found face-to-face communication more convenient than CMC.
3. In terms of Learners' self-efficacy, a solid majority were likely to enjoy writing in English and showed their preference for using English to express their thoughts and ideas through Blackboard® LMS.

4. Learners considered revising much more convenient in the CMC environment and felt Blackboard® LMS helped them to increase their writing practice, online participation and group discussions.

5. Students pointed out both the advantages and disadvantages of using CMC in terms of how it affected their writing processes. The advantages of CMC were related to specific aspects of writing including cognitive development, reduction of anxiety and increased collaboration. The cognitive/linguistic advantages include convenience in spelling and grammar check, awareness of patterns of writing errors and multiple perspectives, reinforcement of the writing process, and development of critical thinking skills. Other advantages like adapting to English writing conventions, including various genre types, organization, and logical progression of ideas can be attributed to the collaboration among students. Psychological advantages included reduced anxiety and increased self-confidence.

6. The disadvantages of CMC were associated with Bb and internet connectivity problems. Conflicting feedback, longer time taken by peers to provide feedback, difficult revision, the considerable amount of time needed to build an online learning community to gain emotional support and the experiences of knowledge sharing/building required were the reported disadvantages.

4.6 Conclusion

As has been established, my research into students' acquisition of academic literacy in the CMC environment has its own distinctiveness on two grounds. First, the context and settings have rarely been investigated from the social and interactional perspective. Second, whatever research there is does not encompass all the three aspects that I looked at vis-a vis the learners' online interactions both in the synchronous and

asynchronous modes, the intertextuality achieved in terms of peer feedback finding its way into students' written products and their attitudes and perceptions of CMC tools in the blended learning. Therefore, it is only natural to draw together the results from all the three research questions to see if there are any findings complementing or dissenting from others.

In relation to the first question on discourse functions, it was found that most students were supporting and confirming each other in their discourse, which is a social benefit of CMC and conducive to promoting collaboration and interaction. The same idea was supported through questionnaire data according to which students expressed their satisfaction over the type of collaboration afforded by CMC that helped them build confidence by providing and getting peer support. Further, the discourse data revealed that initially the students were reluctant to provide adverse comments on their peers' writing but gradually they relaxed and provided more substantial feedback. This was confirmed by the data from the interviews during which most students expressed positive experiences about getting and providing comments during feedback activities. They felt that both while giving feedback or deciding to incorporate peers' feedback, they had to think critically. So they perceived that their online postings facilitated critical thinking skills.

Significant findings about the two parts of the second research question that looked at the intertextuality and feedback specifically showed that some students revised their essays both at the sentence and paragraph level, while others who were low in their English proficiency level, also made some changes as suggested by the peer feedback, but mostly at below sentence level. These revision practices are confirmed in students' answers to the third research question on attitudes. Students considered revising much

more convenient using various CMC tools and felt that collaborative activities provided through Blackboard® LMS helped them to increase their writing practice, online participation and group discussions.

To sum up the chapter, I have shown in the preceding discussions how EFL learners used various discourse functions in their online discussions and how CMC facilitated them in the production of their academic papers. Results also indicated that computer-mediated communication facilitated students' performance of writing activities and promoted collaboration. Students with low proficiency levels could not provide substantial feedback in terms of suggestions for revisions, but they could at least benefit from their peers' feedback for their own revisions. Analysis of the students' draft and revised essays in the online peer review activities showed that almost all students integrated peers' feedback into their revisions and benefited from such activities although they were not satisfied with the quality and quantity of feedback. Finally, these EFL students perceived that CMC facilitated their acquisition of academic literacy and promoted collaboration despite some limitations.

Chapter 5

Concluding discussion

5.1 Overview

This final chapter is comprised of five major sections, and a summary section. The first section presents a summary of the major findings of the study, and starts to link these back to the theoretical framework and previous research discussed in Chapter 2. The second section expands on these findings by providing an elaborated discussion of the students' academic literacies development, interpretations of the participants' perceptions of their writing capabilities in an e-learning environment, and the effects of CMC technology on EFL students' self-perceptions of academic writing impediments and enhancements. The third section discusses this finding with a view to highlighting the overall benefits of CMC affordances in relation to collaboration and interaction, and the implications of this for teaching and learning practice. The fourth and fifth sections point out the limitations of the study and suggestions for future research respectively, with the final concluding section presenting a summary of all the sections in this chapter. The study found that the collaboration and interaction witnessed via CMC tasks had socio-affective benefits for students and that the discourse functions identified within their discussions provided a source to develop their academic literacy. Finally, there is a discussion of the negative and positive attitudes of students and how these affect their completion of tasks in the face-to-face and online environment.

5.2 Summary of the findings and methodology

The central objective underlying this study was to examine the impact of CMC tools afforded through Blackboard® LMS on EFL students' writing processes and writing performance. This was achieved through the investigation of the students' interaction

and collaboration with peers. In addition, students' attitudes towards academic writing were also investigated.

The following research questions were addressed by utilising both quantitative and qualitative research methodologies, which were descriptive and interpretive in nature. The questions were:

1. How do participants (EFL learners in a Saudi undergraduate college) use CMC to negotiate academic literacy with peers?
 - a. What discourse functions do participants use when they are engaged in online discussions?
 - b. Are there differences in the use of discourse functions in synchronous and asynchronous writing?
2. How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?
 - a. How does peer feedback provided via CMC tools influence EFL learner's completion of their assignments?
 - b. How do students perceive the role of feedback provided via CMC tools in producing their final drafts?
3. What are students' attitudes towards the collaborative writing process through CMC?

In the rest of this section, I summarise the findings which relate to these three questions.

5.2.1. How do participants (EFL learners in a Saudi undergraduate college) use CMC to negotiate academic literacy with peers?

To address the first question, an analysis of discourse functions used by participants during online interactions and the participants' responses to the semi-structured interview questions on what they perceived of their language use and how they negotiated with peers and the teacher when they were engaged in computer-mediated activities were employed. Through participating in the collaborative Blackboard® LMS forum activities, the students used various discourse functions. This way they learnt the surface features of text using CMC in addition to face-to-face teaching. They did it in the social context of their course and university, which is their academic discourse community. As discussed in Chapter 2, such a model in which learners acquire certain discipline specific skills in the social context of their discourse community is what Lea & Street (1998) call the academic literacies model. So through my research I viewed the meaning making process of students' writing from the academic literacies perspective and found that students in the social context of their discourse community were acquiring skills specific to their academic writing course. Academic literacies were developed via Blackboard® LMS's discussion forums when students discussed and negotiated meaning making processes in the CMC technological medium. The EFL learners were part of a discourse community comprised of their peers and teachers, in which they learnt to some extent how to provide feedback. They appeared to be acquiring discipline specific rhetorical and linguistic conventions which Berkenkotter et al. (1991) consider to be an important aspect of academic literacy development (Chapter 2, Section 2.2.1).

The number of online communication activities and the extent of students' participation varied across both the synchronous and asynchronous forums. We observe

that students participated more actively in the synchronous than the asynchronous one. The teachers reported that participation in the live sessions was compulsory as it counted towards the attendance requirements to be fulfilled by every student, while participation in the asynchronous was not mandatory. The teachers also felt that because through synchronous live discussion, students could post their immediate queries and get prompt replies, therefore, the students participated more actively in the synchronous sessions than the asynchronous sessions. Despite uneven participation, findings show that CMC tools played an important role in facilitating students to understand their writing tasks. As such, CMC tools provided extended opportunities for collaboration to students and instructors in both the synchronous and asynchronous forums. As reported in the interpretive interview data in Chapter 4, CMC gave the students an opportunity to engage in positive rapport and build mutual confidence while engaged in online writing assignments. This finding conforms to the findings of Johnson & Johnson (1987), who argued that in online collaborative learning settings, students learnt actively, negotiating and discovering more meaning through reconceptualization of prior knowledge and working in an environment that reduces anxiety and uncertainty (see Chapter 2, Section 2.3.1). Similarly, CMC was also perceived by students as having potential second language learning advantages (a cognitive benefit) in the areas of comprehensible interaction and collaborative learning. Kitade (2000) and Vance et al. (1997) report similar findings in their studies. So we may infer that students perceived cognitive, psychological and collaborative benefits of the affordances of CMC.

As for the differences/similarities between synchronous and asynchronous CMC modes in the use of discourse functions discussed in Chapter 4 (4.2.3), although the types of the discourse functions used were the same, the frequency of their occurrence was different in the two modes. It was found that the frequency of two discourse functions

reacting to critiques and/or responding to eliciting was higher in asynchronous than the asynchronous ones. As discussed earlier, the students felt they had more time to reflect and write their responses during the asynchronous activities. So the asynchronous interaction was critically thought out. Similar findings were reported by Levin et al. (2006), who discovered that interactions during asynchronous mode reflected more critical thinking than during synchronous mode. In the same vein, Sotillo (2000, p. 82) found that 'discourse functions in asynchronous discussions were more constrained than those found in synchronous discussions and similar to the question-response-evaluation sequence of the traditional language classroom.' The scarcity of the use of discourse function 'Greetings' in the synchronous mode may be attributed to the relative lack of formality in the synchronous mode. This finding contradicts Johnson (2006) who reported overall a higher percentage of social-emotional interactions occurred in the synchronous mode than in the asynchronous mode.

An investigation of the interaction data along with a review of students' interview data and observations revealed that although the tasks set for the students were teacher initiated in both synchronous and asynchronous modes, after a discussion took off, the interaction was mostly student dominated. This fact, as has been discussed in Chapter 2 (2.2.4), reflects that CMC provided a collaborating platform where the learners felt less inhibited, interacted more freely, and collaborated more than the face-to-face settings. It was observed during class room discussions that the students were timid or shy to a great degree and had to be encouraged repeatedly by their teachers to participate in the discussions. At times there seemed to be a total communication breakdown so the teacher intervened and tried to keep the discussion going by initiating various short questions addressed to specific students. As a result such classroom discussions were heavily teacher centred. On the other hand, synchronous and asynchronous discussions

were less teacher dominated and more student centered. This shows the affordances of CMC for interactivity and support, thus linking in with the social constructivist perspective as pointed out by Warschauer (1997). According to Warschauer (1997), by using CMC students can construct and reconstruct their knowledge through dialogue, text-based interaction, web-conferencing, and face-to-face discussions. In such an environment where students interact using written text, the meaning-making process of learners improves and they mutually build knowledge societies (Harasim 1997).

To conclude, we may infer that both synchronous and asynchronous activities were helpful to students in their meaning-making process and as Bacabac (2008) suggests both are equally effective in promoting collaboration among learners. In the process of this collaborative interaction using various discourse functions, CMC provided students with an extended platform to become virtual members of a particular discourse community of their online forums, their particular class and their specific academic writing course.

5.2.2 How does interaction via CMC tools influence EFL learners' production of academic papers in their academic writing course?

With regard to the second research question, textual analysis of students' essays and writing assignments was employed to answer the first sub-question (How does peer feedback provided via CMC tools influence EFL learners' completion of their assignments?) and students' interviews for the second sub-question (How do students perceive the role of feedback provided via CMC tools in producing their final drafts?). Textual analyses showed that there was a relationship between the written assignments and feedback activity. For instance, CMC-based feedback suggested revisions in the structure and organization of the paragraphs for achieving clarity and supporting and/or

disagreeing with an idea and suggestions to change or revise it. The revisions students made reflected that peer feedback was taken into consideration while students revised their essays. These findings confirm what Zeng & Takatsuka (2009) report as the interactional advantages of CMC. The students' gain is in the form of improved language learning and students supporting one another by attending to language forms through collaborative dialogue. These findings also support what Meskill & Anthony (2005) regard 'instructional conversations'. Such conversations in the form of peer feedback guide learner attention to and production of the target language. The features of CMC environments provide extended practice for instructional conversations and "thereby make instructional CMC a promising tool in foreign language education" (p. 102).

However, the frequency of providing constructive feedback was in general quite low. As reported earlier, students felt they were not competent enough to provide useful feedback and needed both training and practice to carry out feedback activity. This can be explained by the findings of Liou & Peng (2009), who showed the effects of training on peer feedback. They concluded that training affects the production and provision of feedback. Vance et al. (1997) also recommend that the learners should be provided proper training for using CMC for collaboration and teamwork to take place effectively. This also echoes Wang's (2010) concern who suggests close monitoring and encouraging feedback to increase the social interaction of the learners. So we infer that had the students in this study been given training for peer feedback activity, they might have performed much better than they did in the course of the present study. Somewhat similar concerns to those that Hampel (2009) pointed out about proper instructor training also come to light here. The need for training teachers in order to enhance online interaction and collaboration is a significant issue because unless the instructors are well

versed and properly trained to blend the technology with the face-to-face teaching, the true potential of this technology cannot be realised.

Overall, the observation data revealed that during offline classroom peer feedback activities, students' interaction was restricted to just very basic correctional comments related to error correction and/or paragraph/essay structures. The teacher had to probe the students and provide clues to persuade them to participate in such reviews. In contrast, as mentioned earlier, the data from the interviews showed that most students considered peer review using CMC via Blackboard® LMS beneficial on two grounds. Firstly, they had more time to review, think and articulate their comments in the asynchronous peer reviews. Secondly they felt relaxed to critique or disagree with peers during such asynchronous peer reviews. For a majority of students the two essential benefits—relaxed atmosphere and distancing—contribute to the enhancement of collaboration and interaction. CMC can, therefore be seen as an efficient tool that provides more time for speaking practice, especially in crowded or teacher-oriented classrooms and confirms Cheon's (2003) results highlighting the importance of synchronous CMC (SCMC) activities, during which individual language learners received more speaking turns than they would in the face-to-face class. As pointed out in the literature review (see section 2.3.1), there is still a need for research in the field of discovering collaborative and interactional benefits of CMC tools (Jepson 2005; Gass and Mackey 2006). Through these findings, I have tried to fill in that gap, which is particularly marked in the Arabian EFL context.

Nevertheless, a few students expressed their preference for oral communication in addition to CMC asynchronous discussions, which in a way confirms Jepson's (2005) positive findings in favour of synchronous voice chats. A few were also of the opinion that

the peer feedback was not significant for them in revising their drafts. Despite that, many students did incorporate the feedback in their final drafts to a large extent and this could be traced in the revised papers. This showed that collaboration did take place and that peer feedback helped students to share ideas and generate ideas for their own essays. Collaboration was evident in students' essays where the amount of intertextuality – students drawing on peer feedback when redrafting their essays – shows that students accepted the feedback as useful in improving their own drafts. This may be explained in the light of findings by Storch (2005) who reported that collaboration provided students with the opportunity to pool ideas and exchange feedback. In the process of giving and receiving feedback, students were engaged in collaboration. The use of CMC provided them with adequate practice and opportunity to gain competence in this medium, thus augmenting their technical literacy², including writing mechanics, considered as essential element of academic literacy in prior research (e.g. Chung et al. 2005; Cheng 2007).

I viewed students' academic writing from the academic literacies perspective and my goal was to throw light on the benefits of incorporating CMC tools in pedagogy from the perspective of increased collaboration and interaction. The result of the analysis of interview data showed that the intricacies involved in the CMC learning context did not intimidate or confuse the students, nor did they impact the students' learning in a negative fashion, but rather helped to facilitate students' development of academic literacy in many ways. These findings are also commensurate with similar conclusions in prior research (e.g. Belcher 1994; Casanave 1992; Connor & Kramer 1995; Schneider & Fujishima 1995), indicating that the integration of CMC in their process of academic

² Technical literacy has been taken in the context of this study as the skill to use and exploit the learning management system of Blackboard in order to carry out the e-learning activities as part of the course of study.

literacy development can provide students with ample opportunities for interaction and scaffolding in an online local community.

5.2.3 What are students' attitudes towards collaboration, writing, and CMC through the use of Blackboard® LMS?

To answer this final question, both quantitative and qualitative data sources were employed through the attitude questionnaire and interviews respectively. The analysis of the questionnaire data shows that students expressed mostly positive attitudes towards the use of CMC in their responses. The major advantage pointed out by the students was that by using the Blackboard® LMS, they not only developed computing skills but also learned to work in a collaborative manner, sharing their knowledge with their peers and revising their essays with the collaboration of peers. This is an important finding from the point of view of reporting the collaborative benefits of CMC, which is reflected in previous research (e.g., Beauvois 1997a, 1997b; Berge & Collins 1994; Meunir 1994; Warschauer 1996, 1997; Mertzani 2011). However, their responses differed significantly as to the convenience of CMC compared to face-to-face learning. Some students did feel that face-to-face learning was more convenient for them than learning to use CMC tools and collaboration was easier to achieve in face-to-face settings. So we see that the use of CMC did not encourage all students to collaborate. This echoes Wang's (2010) concern that the provision of technology alone is not sufficient to induce learners into collaboration. The results of his study also suggest that although shared work spaces (like CMC platforms) could support collaboration, not all learners actively used them to interact collaboratively. I feel this may be attributed to the fact that the use of technology

is still in the formative stage in the Arabian context. With the technology becoming part of daily life after some years, this factor may be reduced.

The perceived disadvantages include technical issues like slow connectivity and frustrations caused due to the Blackboard® LMS interface in addition to some learners' preference for learning from books rather than the online website source specific to the course. Students' responses also varied significantly on the issue of Blackboard® LMS causing isolation. While most students felt CMC provided a collaborative atmosphere, some felt CMC led to isolation and that they preferred face-to-face instruction and feedback to CMC instruction and feedback. This echoes Ayres (2002) concern that while learners see CMC as an important and extremely useful aspect of their studies, they did not consider it as a worthwhile replacement for classroom-based learning.

In terms of learners' self-perception of their EFL efficacy, most students felt they could express themselves clearly in English writing and were satisfied with their knowledge of English vocabulary. However, opinion was divided on the question of whether they liked or disliked writing in English. The fact that students felt they could write in English but still they did not like writing in English appears to be a contradiction at first sight. This contradiction may be interpreted as I feel it is one thing to be comfortable of one's knowledge and skills and quite a different thing when it comes to liking or disliking the application of that knowledge and skill.

Students' perceptions about writing using computer/Blackboard® LMS show that they felt more creative in a CMC environment than in traditional pen and paper settings. This echoes Fitze (2006) who reports that students during written electronic conferences "were better able to use and practice a wider range of vocabulary related to the topics" (p. 67). In addition, students' participation in CMC activities helped them develop their

own ideas and thoughts and they could write better essays using computers than pen and paper. This has been reported by Zeng & Takatsuka (2009). They reported that CMC provided learners opportunities to assist each other in attending to language forms through collaborative dialogue. Similar findings have also been reported by Kitade (2000) and Vance et al. (1997) in terms of students perceiving CMC as having potential second language learning advantages in the areas of comprehensible interaction and collaborative learning. Comparable positive attitudes towards CMC were also reported by Fang (2010) and Liaw et al. (2008).

However there were significant differences in their perceptions about the ease of revising their writing on computers. As mentioned in the discussion in section 2.3.5 of Chapter 2, Ayres (2002) reported a vital link between the perceived usefulness of CALL and the students' level of computer literacy, language level and age. We may infer that a few students might have felt revising difficult on computers because of the relatively low level of their computer literacy and the technical issues causing delays as mentioned in the preceding paragraphs.

In terms of the insights which the interviews added to the existing questionnaire data, participants reported advantages of CMC that comprised convenience in spelling and grammar check, learning patterns of recurring writing errors, reinforcing the writing process, facilitating thinking skills, critically considering multiple perspectives, adapting to English writing conventions (organization, logic, coherence, format, and genre traditions), and accepting English writing weaknesses in a collaborative setting.

The analysis of qualitative data, obtained from interview analyses, showed that participants started off as beginners in the field of academic writing and demonstrated limited understanding and experience with the writing requirements and conventions in

this field. Writing academic essays, they became aware of the ways in which to write a good essay in line with the requirements they learnt while reading. In other words they learnt to some extent the requirements and conventions of the academic writing course and developed their disciplinary knowledge. In addition, as discussed in the previous section, the students did show that they used peer feedback to revise their essays and integrated it to a large extent. The development of disciplinary knowledge as reported by students in the interviews and the reflection of peer feedback in revised texts (intertextuality) echoes similar findings by Lea (2001). She reported in her study that asynchronous computer conferencing provided collaborative learning opportunities to learners and they drew upon their peers' writing in building their own disciplinary knowledge and exploited texts from computer conferencing by using it in their own writing assignments.

5.3 Concluding discussion of the findings

Findings from the study suggested that building an online discourse community played a major part in developing academic literacy and attitudes towards academic writing, which is congruent with prior research that also showed that online communities within CMC settings play a vital role in the students' acquisition of academic literacy (e.g. Berkenkotter et al. 1991, Berkenkotter & Huckin 1995). This line of research is concerned with how novice writers are inducted into online discourse communities in academic writing courses and shows how various discourse functions used in CMC interaction are conducive to acquisition of academic literacies. The present study also emphasised the same concern and extends prior research by considering factors like learners' perceptions and the extent to which online activities fed directly into their writing in addition to analysis of their online interactions. The CMC environment of Blackboard® LMS provided

the students with opportunities to participate in an online learning community where everybody could collaborate and help each other edit, revise, and improve English writing. Prior research explains that CMC environments can be conducive to collaborative group interaction and sharing (Bruffee 1984, 1986, 1995; Johnson & Johnson 1987; Ayres 2002; Storch 2005; Zeng and Takatsuka 2009; Wang 2010; White 2006).

As mentioned earlier, the online discussion forum was used as an extension to the classroom. In Bb forums students practised or employed the knowledge they were taught in the class, posted their essays for feedback and provided online feedback on peers' essay drafts. In this way the teacher exploited online activities to provide a scaffold between instruction, learning and practice. Furthermore, the present research highlighted the importance of feedback and its inclusion in the revised essay drafts of students in the form of intertextuality to help students accomplish their academic papers and added to the existing literature in the area of peer feedback studies in the Arabian EFL context (Norton & Syed 2003, Storch & Aldosari 2010). The investigation of intertextuality – in the sense of students drawing on peer feedback when revising their essays – indicated the paths that students took to proceed from online communication to their personalized writing products.

In the discussion in previous sections, I have established that the use of CMC tools via Blackboard® LMS facilitated both individualized learning processes and collaborative interaction, and learning tasks specifically designed to aid the development of EFL academic writing processes and practices. In the literature review, I argued that although much literature from the perspective of social theory of cognition is available to demonstrate the cognitive and psychological benefits of CMC much less is available on the social benefits of CMC and the need for research focusing on the aspects of

collaboration and interaction. I also established that the main concern of my study would be to highlight the advantages of CMC tools for collaboration and interaction. Starting with cognitive benefits—and by cognitive I mean connected with mental processes of understanding—participants appeared to provide substantial feedback with special attention to language forms and grammatical structure. Therefore, most of them could pick out errors in their peers' drafts and provided feedback that suggested proper lexical choices and syntactic structures available to them (e.g., proper word choice and manipulation of subordinate and embedded subordinate clauses).

From the perspective of observing students' writing performance, there was a trend towards an improved level of performance due to the use of CMC. However, during the writing processes, there were advantages and disadvantages about using CMC technology for EFL writing instruction. A majority of students had a high level of positive perceptions of CMC technology and participation. Despite the fact that students' online participation was less than anticipated, they perceived that their writing anxiety decreased, they became more confident, and felt that they made progress in multiple perspectives, critical thinking, identifying writing errors, implementing writing processes, and adapting to academic writing conventions due to an encouraging milieu that prevailed the CMC environment. It may also be added that the amicable atmosphere of the CMC environment of Blackboard® LMS contributed to the reduction of the learners' anxieties, thus inducing a better connection between thinking and writing in the participants of the study. These findings are commensurate with the findings of Alias & Hussin (2002) who reported e-mail and online discussion raised the students' motivation, confidence, and reduced their anxiety level. They also conform to Kern's (1995) findings which report a majority of students found that the networked computer environment was motivating and that it reduced their communication anxiety.

Finally, the most important aspects are associated with the benefits of CMC tools for interaction and collaboration, which as I highlighted was the chief concern of my study. The findings suggest that various affordances of CMC appear to be effective in assisting all types of students. The theory of social constructivism offers an explanation for this finding. According to this theory (Vygotsky 1978; Bakhtin 1981; Bruner 1966), learning is embedded within social events and occurs when learners interact with people (students and teachers) and artefacts (such as computer tools). In the present study, CMC technology provided students with an internet connected platform (tool) to interact, communicate, negotiate, and construct in collaboration with other EFL learners and their teachers. Participants reported that they could understand their ideas/positions better and help each other enrich their content with multiple perspectives and examples. Moreover, participants reported that students may continue to struggle with many writing problems but the activities and assignments afforded through CMC tools were very useful in terms of sharing their problems with a large number of students. Once the students had posted some assignment or a question on the forums, they expected to get some support from their peers and would be able to learn and move ahead. Eventually they would get support from their peers in terms of feedback that provided some practical guidance on the issues of structure, coherence and ideas. As pointed out in the preceding discussion most of the feedback provided by peers found its way into the revised texts. In this way, they gained from the online socialisation during which they were offering problem solving strategies in their feedback to each other. This is also related to the social constructivist approach of Lillis and Scott (2007, p.12) in that individuals interact in their particular discourse community and create their own "ways of doing things with texts [which eventually] become part of everyday, implicit life routines".

By and large, the academic literacies approach and research into the collaborative benefits of CMC technology provide plausible explanation for these findings. CMC technology provided ample opportunities for fostering an interactive and psychologically/emotionally amiable learning environment that assisted in enhancing and improving the EFL learners' academic literacies. Thus, the CMC technology has proven effective in supporting collaborative interaction among an online community that comprised of peers and teachers using the channels and materials afforded by Blackboard® LMS.

Overall, it can be concluded that academic literacy development did take place through participation in the communication and performance of writing tasks through synchronous and asynchronous online platforms among this group of Saudi Arabian students. The high frequency of the use of discourse functions like explaining, supporting and confirming in students' interaction indicate that they were collaborating in this environment. The analysis of questionnaire data also indicated students' satisfaction with the type of collaboration afforded by CMC which helped them build confidence by providing and getting peer support. Further, the discourse data revealed that initially the students were reluctant to provide adverse comments on their peers' writing but gradually they relaxed and provided more substantial feedback. This was confirmed by the data from the interviews during which most students expressed positive experiences about the collaborative support which they got and provided during feedback activities. Thus, CMC tools served as mediators in the process of students' development of academic literacy. It created the circumstances that enabled students to collaborate in a non-threatening environment where they benefitted socially, cognitively and psychologically. However, it should be noted that CMC is not replacing the various face-to-face communications among students and teachers in higher education learning

communities. The conclusion most likely to be inducted from the findings indicates that the best practice is the combination of face-to-face and computer-mediated communication in order to promote collaboration among learners.

5.4 Research implications for pedagogy

The current study is significant in practical terms. At the empirical level, this study contributes to the growing body of literature on academic writing by providing much needed information on the nature of academic writing of EFL students in a computer-mediated environment in the Kingdom of Saudi Arabia where CMC applications to ELT are scanty and under-researched. Since academic writing is one of the weakest areas of skills amongst Saudis (McMullen 2009), this exploration will pave the way to reveal strengths, weaknesses, opportunities and challenges inherent in a CMC environment exploited to teach academic writing.

The findings of this study have shown that CMC technology can be effective in improving Saudi Arabian EFL students' academic literacy skills from the perspective of interaction and collaboration. In this way, the impact of CMC technology may be more influential in providing learners with interaction and psychological/emotional support to enhance their cognitive/linguistic writing abilities. This implies that writing instructors in the region should be aware of both the advantages and disadvantages of the use of CMC technology as a pedagogical tool for academic writing development.

Teachers of EFL writing in Saudi Arabia can devise strategies in order to gain from the advantages related to social constructive aspects of writing difficulties. With this

perspective, teachers can devise such activities which enhance collaboration among the learners. EFL teachers in Saudi Arabia can use CMC for peer feedback in a more comprehensive way than was witnessed in this study. Most students pointed out during the interviews that providing feedback that could substantially help peers in revising their drafts was difficult, specifically the type of feedback in which they could suggest changes involving elucidation and elaboration of ideas. So the teachers may start first with structural errors below sentence level and once students are happy with this and have gained proficiency after practice, they could move on to more constructive feedback. Perhaps the next step would be to ask students to critically reflect on the changes they made in response to feedback and why they made some changes and why they chose not to make others (if they did not make some).

Some participants also expressed the need for training in using the technology and in giving feedback. So teachers could provide some initial instruction on how to give feedback that can help peers in a substantial way. For example they could learn that a good way of giving feedback is to say something supportive and then give a criticism and then finish on something supportive. This would thus extend what students were already trying to do in the present study. To start with the teachers could prepare a mock essay for students to critique, perhaps one that has some really obvious mistakes that they will be able to critique. This way they won't have to worry about the other students' feelings, which as pointed in the interviews was an issue which kept a few students from critiquing their peers.

As reported in the findings, overall the students had a low level of English proficiency but of course there were some who were proficient and had good writing skills. So learners could be asked to produce jointly written texts. They might work in pairs

or in groups of 3 to 4 students of mixed ability. Learners could be engaged in this activity through asking them to divide their work among themselves. For instance, in a group of 3 to 4 students of mixed ability, one of them can be assigned the task of finding relevant information on the internet about the topic of their assignment. Another can sift information and write the introduction and the conclusion part. Still another one can write the main body. In the process, they can provide feedback to one another about the structure and editing. It is expected that such a task will provide a collaborative environment where the writing anxiety could be reduced making the learners more confident and less able students would gain by learning from able students than themselves. They will also be exposed to multiple perspectives that can enhance their critical thinking.

On a practical level, findings from this investigation will help faculty members of academic writing and other literacy skills make informed decisions about how to effectively acculturate EFL students into the discourse community of their choice with the help of computer technology. I feel that the teachers need to scaffold their tasks more than they presently do. They may plan to design their online course components in a way that builds upon the classroom teaching. In other words, there should be coherence between the face-to-face and online components of the course. The scaffolding can be achieved through establishing a link between face-to-face interactions, supplementing it by providing online resources and providing practice to create the desirable style of writing through online activities.

Another observation of interest was that the online activities could pave the way towards a more student centred environment. In addition to teacher initiated discussions in both the synchronous and asynchronous modes, the students should be given a chance

to decide the topics for online discussions and after the teacher's approval, one of the students should play the role of the initiator and mediator of the discussion rather than the teacher. In such a scenario, the teachers should closely monitor the proceedings and provide reflective feedback as to how well the activity went and how it could be improved in future.

One important issue reported in the findings of the quantitative data was related to the technical issues related to internet and Bb learning management system. The university authorities can ensure provision of fast internet access by employing highly skilled technical support staff. The university may also request the Bb LMS authorities of the difficulty of commenting on the text written in the Bb forums since most students reported that they were frustrated to use this facility. Until this problem is fixed and presumably it may take quite a long time, the teachers can ask students that in addition to posting their essay drafts in the text box of the discussion forum, they should also attach the required essay as MS Word file as an attachment to the forum postings. In this way the students will have the option to download their peers' essays in MS Word format and easily insert comments and feedback. They may then attach the documents with their comments in the Bb forum activity threads.

While providing background information of the setting of the study in Chapter 3, I mentioned that the teachers were free to assign any percentage of term work marks to various online activities. I also mentioned that participation in asynchronous online was not compulsory, while presence was marked during the synchronous activities. So the teachers can make participation in asynchronous online activities compulsory and assign some marks to ensure participation, so that participants have to submit their first drafts, final drafts and a certain number of comments that they make on others' drafts. To

increase students' participation, both the synchronous and asynchronous activities can be linked to formative assessment, thereby providing external motivation to the students.

To conclude, students need ample time, clear instruction and training in addition to emotionally comforting activities in order to profitably interact with their peers in the CMC environment. It may be concluded that the e-learning technology of Blackboard® LMS can only support but not replace group collaborative processes as it occurs in natural traditional settings. Teachers still need to design teaching activities primarily with the purpose to facilitate online collaborative learning to work effectively.

5.5 Limitations of the study and possible future research

This study had a number of limitations. First, the study did not manipulate measures to assess the effects of maintenance over a long period of time. This study was conducted within one semester. Although positive and negative effects of CMC technology with EFL students' writing processes have been noted, further research should measure the long-term effects of CMC technology for EFL writing processes and writing performance by utilising the control group design of pre-tests and post-tests of the students' academic writing performance.

Second, this research employed a research design that explored students' writing using CMC tools, interviews and questionnaires to recognise how social, interactional and attitudinal factors influenced their academic writing processes. A control group was not manipulated to investigate how face-to-face interaction may have affected their writing processes. Further research could involve both a treatment group and a control group to explore the differences of social and attitudinal effects on students' academic writing processes between face-to-face learning and online learning.

Third, there was a sampling restriction; the participants were drawn from a very limited population. The population was small compared to the high number of students for whom English is a foreign language currently enrolled in colleges and universities in Saudi Arabia. This further makes it difficult to generalize the findings to a large population of EFL students in Saudi Arabia. Further research could be conducted to highlight the academic writing learning needs of other students for whom English is a foreign language. As a related point, a factor analysis should have been conducted on the survey used in this study to determine the extent to which the dimensions described by the items on the survey match factors (dimensions) identified via factor analysis, but there were sample size restrictions; the statistician indicated (already mentioned in the methods section) that with this sample size, factor analysis results have to be interpreted with caution. In addition, qualitatively, using focus groups, the research population could include students from more institutions to establish the consistency of the needs expressed by EFL learners across a wider population. Finally, the population of the study were only male Saudi students. Saudi society is strictly segregated, and co-education does not exist. Therefore, it is possible that there could be differences in findings if the same study were conducted in a female college. In other words, how Saudi female students acquire academic literacies and how they perceive the role of CMC in helping them in its acquisition may significantly differ from their male counterparts.

There could be multiple implications of the present study of EFL students' use of CMC and their attitudes in the Arabian context for future research. As mentioned earlier, not many studies have so far been conducted to see the effectiveness of the use of technology in support of face-to-face teaching in the Arabian context. My stance has been to find the advantages of using CMC from the perspective of collaboration and interaction, which I did report as accruing from the use of CMC from all the three

perspectives; the cognitive, the psychological and social. Having worked for over 11 years in Saudi Arabia, I felt that the students were very shy, rather timid, in front of other students and teachers. This is perhaps a reflection of their culture. Starting and running a classroom discussion in such a setting was an uphill task and was heavily teacher dominated. As reported in the findings, students were less anxious during both the synchronous and asynchronous interactions and participated actively in the CMC settings. Moreover, the distancing provided by CMC medium, along with physical absence of peers or teachers, made online discussions student centred. So such an atmosphere is indeed seriously needed in the Arabian context where students can feel liberated and relaxed and participate more actively than face-to-face classes. Therefore, future research can be conducted to find out further social benefits of CMC in various academic settings starting from schools to the graduate or post graduate levels.

Another limitation of the study is related to the survey questionnaire. The students' understanding regarding the more general questions about Blackboard® LMS in the questionnaire may have been different from the researcher's, as their Bachelors program featured very different uses of Blackboard® LMS (both for downloading and for interaction). The instructors of various skills courses (reading, writing, listening, speaking) and the grammar courses were all using Blackboard® LMS to blend with their classroom teaching. Since the scope of my study was limited to investigating the various affordances of Blackboard® LMS in the academic writing course's context only, naturally when I designed my survey questions I had only the academic writing course in my mind. However, the students may have had different connotations associated with the general questions about the affordances of CMC because they were using Blackboard® LMS in other courses also and their responses could have been influenced by their experience of using it for other courses.

Despite the limitations summed up above, the findings of the study are still valid, interesting and useful, as was evident in the discussion of the findings. Echoing some of the findings of previous research, they also extend evidence in support of the positive social benefits of CMC, how the CMC environment can be used to promote collaboration among learners and how it can help EFL learners build their academic literacy by becoming a part of the discourse community of academic writers. The findings are interesting and useful in terms of both the particular setting and the wider EFL context. Since educational technology has only recently permeated the Arabian world, it was interesting to see how theory and practice found elsewhere extends or is challenged in a new context. This was especially true about the various issues pointed out in the discussion on the question on learners' attitudes. Despite the fact that these EFL learners made a lot of errors in their assignments, most students felt they could express themselves clearly in English writing and were satisfied with their knowledge of English vocabulary. In the same vein, though most of the learners felt that Blackboard® LMS helped develop their computing skills and they were comfortable with it, they still showed a preference for learning from books than websites.

5.6 Conclusion

This study explored the online interactions of a group of male university-level Saudi Arabian learners of English, and considered the extent to which CMC tools facilitated their acquisition of academic literacy. In the course of this study, I explored specific discourse functions that students utilised during their online interactions. Findings showed that the participants used the Explaining function in their online communication most, both in the synchronous and asynchronous modes. In addition, the majority of the participants used a combination of multiple language functions in different learning situations. Qualitative

findings from the interactional data analysis indicated that computer-mediated communication gave students ample opportunities to get involved in communication, negotiation, and interpretation of academic literacy development tasks and corresponding disciplinary knowledge. In the process, students perceived that CMC tools afforded a more socially amiable atmosphere than face-to-face settings and was conducive to interaction and collaboration. The teachers linked various classroom activities with CMC online activities thus providing scaffolding to the whole learning process. The students took advantage of scaffolding and supportive feedback to move their acquisition of academic literacy to an improved level. Furthermore, analysis of 'intertextuality' – that is, the extent to which students were able to take on board comments and incorporate them in their final drafts – suggested that students were able, in varying degrees, to reflect on their work and make changes in line with peers' suggestions. Thus, the use of various CMC tools played some facilitative roles in improving students' written products. All in all, their understanding of the discourse community and pedagogical genres of academic writing was improved to some extent as a result of collaboration with peers.

Findings from this study indicate that adapting the academic writing curriculum in Saudi Arabian universities to EFL students' learning needs by incorporating CMC tools can enhance their academic writing processes and skills and critical thinking abilities as well as their attitudes towards academic writing in a CMC setting. However, in the process of integrating CMC tools into EFL academic writing classes, instructors should constantly evaluate to see if it helps to address their students' learning needs and whether the students are achieving learning objectives. Effective learning and consequent development of academic literacies will not take place when CMC technology is not based

on sound and practical educational goals and pedagogy, irrespective of the glamour and promise of this technology.

Indeed, I feel that technology has come to exercise a sort of hegemony over our thinking and feelings about writing, and our interactions with people. It has the potential to influence the ways our students approach academic writing, including the processes they use, and when, where, and how they use them. As our new generation students increasingly use technology for academic writing, teachers need to think about how to exploit the potential of e-learning for collaboration. The teachers can do this if they are trained appropriately to teach using this technology and do not just adopt it unthinkingly. So this new environment provides a potentially viable collaborative tool which can challenge the teachers' imaginations and provide that essential spark that can ignite the active participation of students. In my study I have shown to what degree the affordances of CMC affect the EFL learner's thinking about and attitudes towards academic writing, and particularly their feelings about writing, and communicative interactions with their peers and their teachers. Keeping in view these attitudes, the teachers must specifically think about their own classrooms and see what strategies they can develop in order to facilitate and motivate their students to adapt the use of technology in the classrooms.

Currently, I feel in most parts of the world, writing instructors and researchers are in the process of heavily using technology for educational purposes in the classroom. The challenge for writing teachers and researchers is thus how to gain locally relevant insights about integrating new technology into writing instruction designs that might be effectively and constructively used for English language learners in socially amicable online community settings. This study offers insights based on empirical research, which it

is hoped can inform the probably increasing use of online technology in EFL classrooms in Saudi Arabia.

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Appendix A

Attitude Questionnaire

Dear Student

This questionnaire is about your experience of the e-learning blended course of Writing, level 4. We want to determine advantages, difficulties and your attitude towards the computer-mediated environment that has been provided to you during this semester. Your responses are anonymous and have no bearing on your course grades. Please read the questions carefully then tick the appropriate response. Thanks.

PART 1

1. Do you have a computer at home? Yes. _____ No. _____
2. Do you have access to the internet at home? Yes. _____ No. _____
3. How long have you used Blackboard® LMS? _____ months _____ years
4. How long have you used computer? _____ months _____ years
5. How many years have you studied English as a foreign language? _____ months _____ years
6. Where do you prefer to use the internet for e-learning?

At home _____

At an internet café _____

At the university _____

Other (please state) _____

PART 2

Please read the following statements then tick (✓) in the appropriate cell. Where **CMC**= Computer-Mediated Communication, **BB**= Black Board, **5**= strongly agree, **4**= agree, **3**= not sure, **2**= disagree, **1**= strongly disagree.

	Advantages	5	4	3	2	1
1	CMC is more convenient to me than face-to-face learning.	5	4	3	2	1
2	CMC improves communication between students and students, and students and teachers.	5	4	3	2	1
3	CMC though BB makes teaching and learning more effective.	5	4	3	2	1
4	I find BB interesting and useful.	5	4	3	2	1
5	I like BB because I can work according to my own pace.	5	4	3	2	1

6	BB Forum helps me to develop proficiency in English Writing techniques and mechanics.	5	4	3	2	1
7	BB Forum helps me to share my work with other class fellows and obtain their feedback.	5	4	3	2	1
8	I benefit from the feedback given by my teacher and my class fellows through BB.	5	4	3	2	1
9	BB assignments help me to develop computer and internet skills.	5	4	3	2	1
10	BB assignments help me to develop the knowledge of the writing process.	5	4	3	2	1
11	Teachers' and peers' messages and postings presented clear and concise arguments for academic writing tasks	5	4	3	2	1
12	Teachers' and peers' feedback were important for increasing collaboration	5	4	3	2	1
	Disadvantages					
13	I feel isolated when I use BB.	5	4	3	2	1
14	BB is difficult to handle and therefore frustrating to use	5	4	3	2	1
15	Slow internet connectivity is a major problem in using BB.	5	4	3	2	1
16	I face technical problems when I use BB, like difficulty in connecting to the BB-system, accessing peers work etc.	5	4	3	2	1
17	I prefer to learn from the book than from the website.	5	4	3	2	1
18	BB allures students to be dishonest (cheat).1	5	4	3	2	1
19	I feel I will become asocial if I have to concentrate only on e-learning.	5	4	3	2	1
20	Both synchronous and asynchronous interaction through BB is less effective than face-to-face interaction in the classroom.	5	4	3	2	1
21	I do not have internet at home, so have problem using BB outside of college.	5	4	3	2	1
22	I don't feel BB helps to increase collaboration among students	5	4	3	2	1
23	Teachers' and peers' messages and postings were not useful for or relevant to academic writing tasks	5	4	3	2	1
24	I was not satisfied with the online peer communication	5	4	3	2	1

PART 3

This part of the questionnaire is about your use and knowledge of English in general and using English in the CMC environment. Please provide your responses without fear that they may affect in any way on your grades.

Now please read the following statements then tick (✓) in the appropriate cell. Where CMC= Computer-Mediated Communication, BB= Black Board, 5= strongly agree, 4= agree, 3= not sure, 2= disagree, 1= strongly disagree.

Section 1.

25	I can express my ideas clearly in writing (in English).	5	4	3	2	1
26	I dislike writing in English.	5	4	3	2	1
27	I am happy with my use of vocabulary in written English.	5	4	3	2	1
28	I have no problem with grammar in written English.	5	4	3	2	1
29	I have no problem with organization in written English.	5	4	3	2	1
30	I'm good at writing (in English).	5	4	3	2	1
31	It is difficult to write in English.	5	4	3	2	1
32	I enjoy writing (in English).	5	4	3	2	1
	Section 2					
33	I can write better essays when I do them on the computer.	5	4	3	2	1
34	Learning English reading and writing through a computer is fun.	5	4	3	2	1
35	Learning English reading and writing through a computer make me less anxious.	5	4	3	2	1
36	Computer-mediated language learning can promote my English literacy abilities.	5	4	3	2	1
37	Revising my written work is easier when I write it on computer.	5	4	3	2	1
38	I'm willing to use an online discussion board if I have a question or comment.	5	4	3	2	1
39	Commenting and responding to others by an online discussion board helps me develop my	5	4	3	2	1

	thoughts and ideas.					
40	I feel that communicating by an online discussion board is a good way to improve my English.	5	4	3	2	1
41	I feel that writing by computer makes me more creative.	5	4	3	2	1
42	I feel that using a computer gives me more chances to practice English than pen/paper mode of writing.	5	4	3	2	1
43	I'm interested in knowing more about using online discussion board (for example: Blog) for developing my English literacy.	5	4	3	2	1
44	I'm more willing to participate in a group discussion on line than in the classroom.	5	4	3	2	1

Additional comments:

Thank you for your cooperation.

Appendix B

INTERVIEW TRANSCRIPT FOR TEACHERS

Hello and thank you for agreeing to participate in this interview. Let me start by asking you some questions about your background and general experiences with this class.

1. Did you have any experience of using collaborative online invention practices (chat rooms, discussion boards, blogs, etc.) for teaching composition courses before? What courses were these?
2. What online practices have you used in class before besides the current online invention activity just completed? For what purpose were these? Were these successful in terms of achieving the purpose? Why or why not?
3. Do you consider yourself proficient in teaching blended courses through the use of Blackboard® LMS learning management system? With using online activities in the process of composing essays through providing feedback and peer review?
4. Did you find your students proficient in the use of computers and BB system? Were they provided any special training session? Did you receive any training before teaching to start blended courses?

Research Question: What attitudes/perceptions do students have toward collaborative online invention process?

1. What did you think of the process overall?
2. Would you prefer using the same strategy in future for teaching academic essay writing? Why or why not?
3. How many of the ideas discussed online and in class did you think were tapped into your students' writing?
4. What were students' perceptions about the process of writing vis-à-vis brainstorming, pre-writing, peer-reviewing, editing and final draft writing?
5. What among the 5 steps of the writing process was most easy and what was the most difficult to conduct through CMC?
6. How much do you feel does CMC help in supporting the process of writing of the students?
7. What was your level of satisfaction with students' participation in class discussions?
8. What was your level of satisfaction with students' participation in online discussions?
9. Can you discern any particular differences between students' face-to-face peer review activity and online peer review? If yes, what are those?
10. How do you encourage your students to participate more actively in the class?
11. How much motivated are the students in using CMC for writing?

12. How much do you feel does CMC help in promoting collaboration among the students?
13. What type of differences did you find among students in the use of CMC? Could you attribute any reason to these differences?
14. Is CMC through BB a help or a hindrance in achieving course objectives of Writing 4 course?
15. As a teacher, do you feel your time management vis-à-vis your teaching content has improved or not?
16. Have you examined your students through BB? How was your experience? How did the students feel?
17. What %age of the total marks was assigned to the CMC activities? Do you think it is sufficient?
18. Is assessment an important factor in creating external motivation for active students' participation in the CMC environment? Why? Or why not?
19. Do you have any further comments?

Appendix C

INTERVIEW TRANSCRIPT FOR STUDENTS OF BOTH CLASSES

Hello and thank you for agreeing to participate in this interview. Let me start by asking you some questions about your background and general experiences with this class.

5. Did you have any experience using collaborative online invention practices (chat rooms, discussion boards, blogs, etc.) for your composition courses before? What courses were these?
6. What online practices have you used in class before besides the current online invention activity just completed? For what purpose were these? Were these successful in terms of achieving the purpose? Why or why not?
7. Do you consider yourself proficient with computers? With using online activities in the process of composing essays?

Research Question: What attitudes/perceptions do students have toward collaborative online invention process?

8. What did you think of the process overall?
9. Would you prefer using the same invention strategy in future essays? Why or why not?
10. How many of the ideas discussed online did you think were tapped into your writing?
11. Brainstorming is a pre-writing activity. It's something you do before you begin to write your essay. Some students think that brainstorming is a waste of time and they want to just start writing. What would you say to these students?
12. How much do you think you participate in class discussions?
13. When you're having a discussion in class, what do you pay attention to when you're speaking. What do you pay attention to when you're listening to another student?
14. You're using Blackboard® LMS in class. How do you feel about using computers in your writing class?
15. How many of your ideas in writing were actually sparked by the online dialogue?
16. How did you come up with ideas that were not discussed online?
17. What is the easiest part for you when you start to write a paragraph or an essay? What is the hardest?
18. To what extent does the peer review activity in Blackboard® LMS forums was helpful in writing your essays?
19. What do you think of the quality and quantity of the peer review comments?
20. Did you participate actively in peer review activity?
21. Did you think it is useful?

Appendix D

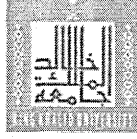
Chairman's letter of approval to conduct research

KINGDOM OF SAUDI ARABIA

Ministry Of Higher Education

King Khalid University

Faculty of Languages and Translation



المملكة العربية السعودية

وزارة التعليم العالي

جامعة الملك خالد

كلية اللغات والترجمة

Date: 12/10/2010

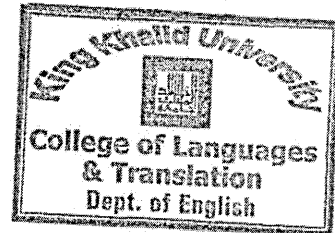
Dear Colleague,

Please be advised that our colleague Mr Altaf ur Rehman Malik is going to undertake his EdD research fieldwork at English Department in this current academic semester. His research fieldwork is a part of his EdD requirements and it is fully explained in the attached documents. Kindly read the attached documents and sign the consent form accordingly if you are willing to participate in this research. We appreciate your cooperation and thank you very much for your participation in advance.

Best Regards,

Dr. Hamad Aldosari

Chairman of English Department
Faculty of Languages and Translation
King Khalid University



المرفقات : التاريخ : الرقم :
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Appendix E

Explanatory Statement for Instructors

October 6, 2010

Participants of Online Interaction and Interview for the pilot study

Proposed research project: Academic writing, learning styles and attitudes of EFL students in a CMC environment.

This information sheet is for you to keep.

My name is Altaf ur Rehman Malik and I am conducting a research project with Dr Caroline Tagg, Lecturer, English Language Studies/Applied Linguistics, Centre for Language and Communication, OU, towards an EdD degree at The Open University, UK. This means that I will be writing a thesis of about 60,000 words.

Why are you invited to participate in this research?

You have been invited to participate in this research because you are teaching English as a Foreign Language (EFL) at the English Department of the Faculty of Languages and Translation at King Khalid University and you meet the conditions of the participation in this research. By your participation; the researcher hopes that you can contribute to the development of EFL research and EFL teaching in the Faculty.

The aim/purpose of the research

The aim of this research is to explore the influence of CMC on students' academic writing, academic literacy and attitudes on online discussion forums. I am conducting this research to find out how and to what extent CMC is used by the students and how does it affect students' attitudes and performance in acquiring academic literacies and academic writing presence affects students' online interactions. The study will also examine the instructor's perceptions and attitudes towards their presence in CMC interaction and towards the CMC learning environment.

Possible benefits

It is hoped that outcomes of this research will mean, that Saudi EFL students will be able to learn through the innovative methods of computer-mediated communication environment. It is also expected that the outcomes of this research will have insightful pedagogical implications for EFL learning in general.

What does the research involve?

The study involves two stages of data collection. To participate in this study, first, you will be asked to get your students write an academic essay online individually. I will collect their submissions as part of my data. Then you will ask your students to participate in asynchronous activity on Blackboard® LMS to write a similar essay collaboratively. The researcher will collect

this submission also. You will also be required to keep a journal and record your observations of students interactions in both asynchronous and synchronous activities. Finally, you will be asked to attend an interview with the researcher. The researcher will audio tape the interview.

How much time will the research take?

The whole period of interaction on the online discussion forum will last for 8 weeks. The interview will take approximately 60 minutes.

Inconvenience/discomfort

You may encounter technical problems using internet in the online interaction stage especially when you are out of the university campus. Ask the researcher to assist you. Other than that, we assure you that you will not experience any discomfort or inconvenience in participating in this study. However, if you feel uncomfortable in any stage of your participation, please let the researcher know and he will take that into consideration and provide you with any assistance you may need.

Can I withdraw from participating in this research?

Being in this study is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate but wish to withdraw, you may do so at any time prior to doing the interview.

Confidentiality

All data you contribute to this study will be treated with total confidentiality. Reports will be anonymous without disclosure of the participants' names, identities or any personal information. Anonymous names will be used whenever the data is reported upon or published in order to maintain total confidentiality for the participants.

Storage of data

In order to adhere to the University regulations, storage of the data collected by the researcher will be kept on University premises in a locked cupboard/filing cabinet for 5 years. A report of the study may be submitted for publication, but no individual participants will be identifiable in such a report.

Results

If you would like to be informed of the aggregate research finding, please contact Altaf Malik on (+966-532-146454) or email (amalek@kku.edu.sa).

Altaf Malik

PI: Y8820505

EdD Student

Centre for Research in Education and Education Technology

Open University, UK

Appendix F

Consent Form for Students

October 6, 2010

Participants of Online Interaction and Interview for the pilot study

Proposed research project: Academic literacies, academic writing and attitudes of EFL students in a CMC environment.

NOTE: This consent form will remain with the Open University researchers for their records.

I agree to take part in the Open University research project specified above. I understand that agreeing to take part means that:

I agree to participate in the online interaction of students-to-students. Yes____ No____

I agree to be interviewed by the researcher. Yes____ No____

I agree to allow the interview to be audio-taped. Yes____ No____

I agree to make myself available for a further questionnaire if required. Yes____ No____

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.

I understand that any data that the researcher extracts from the online transcripts, interview, or questionnaires for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics.

I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party.

I understand that data from the online transcripts, questionnaires and interview will be kept in secure storage only accessible to the research team. I also understand that the data will be destroyed after a 5 year period unless I consent to it being used in future research.

Student's Name.....Signature Date.....

Appendix G

An example of asynchronous discussion forum activity

The topic of the article: "Leasing passes the Road Test 2" and "Leasing passes the Road Test, Part 2".

The text presented an evaluation of different views about leasing by providing a comparison of different views.

The questions for discussion:

1. For whom do you think this article was written?

Khalid: I think this article written for business company owner that make delivery of their items to many stores, supermarkets, restaurants etc. Also they need refrigerated trucks because they want their items to reach without getting spoiled in hot weather.

{Explaining}

Saleh: This article is written for the business men who want to supply their frozen food products like ice-cream and meat to various places that sell those food items. **{Explaining}**

Fahad: In my opinion this article is written not only for food companies that sell frozen products but for all types of business that produce different things that have to deliver their things to other cities or in some local area. **{Explaining}**

2. How is this article organized?

Khalid: This article is organised in the following way.

- a. Every paragraph begin with the main idea which is about the benefits of leasing delivery trucks.
- b. There are specific examples of business people speaking what they feel is good for them for leasing trucks.
- c. There is no thesis statement. **{Explaining}**

Ahmad: I agree with Khalid. But I don't understand why no thesis statement is not there. Please explain. **{Agreeing and Inquiring}**

Rashid: I think this article is been written for persuading. The writer is using people's opinion in almost every paragraph to support the main idea in every paragraph. All the main ideas are about the merits of leasing. **{Explaining}**

Khalid: Ahmad I am not sure why there is no thesis statement. But I have one reason for explain this. As Rashid said this is a persuasive essay so the writer has described details of how and what trucks of a food company do every day. **{Explaining/elaborating}**

Rashid: Yes Khalid I agree this is a persuasive essay and it has a thesis statement. I saw on the course web link (Perdue University writing resource) that a persuasive essay may contain a claim in its thesis statement. **{Agreeing and Supporting}**

"Claims typically fall into one of four categories. Thinking about how you want to approach your topic, in other words what type of claim you want to make, is one way to focus your thesis on one particular aspect of you broader topic."

I think the writer has used this method and in the thesis claimed about the value and solution that leasing can provide to businessmen. **{Explaining/Elaborating}**

3. How do quotations help you understand the article?

Badr: I think quotations are very useful in persuasive essays. The reader is affected by what people say about something the writer quotes the exact words of the speaker. **{Explaining}**

Rashid: Yes I agree with Badr that quoting direct speech is very effective when the writer wants to persuade some one to agree to his point of view. **{Agreeing/Explaining}**

Saleh: I agree with Badr and Khalid but I feel there are too many quotations in this article and I sometime i was distracted by them and found difficulty in understanding this article in one reading. . **{Agreeing/Explaining to disagree}**

Ahmad: Yes Saleh is right. I also had the same problem. . **{Agreeing}**

Fahad: I agree that Badr and Khalid that direct quotation of speech is very good way that a writer can use to influence the opinion of readers. But as Saleh and Ahmad say it is also a cause of distraction if the writer used them a lot. Therefore I think they should be used carefully. I mean to say that there can be some good example of quotes but not too many. . **{Agreeing/Explaining/Elaborating}**

4. Compared to the disadvantages, what proportion of the article is devoted to disadvantages of leasing? What can you conclude from this?

Fahad: I think there are no disadvantages of leasing given in this article. I can conclude this is because the writer thinks that leasing is the best and only right solution for goods dilevery for big companies. . **{Explaining}**

Ahmad: Yes Fahad is right because no part of this article talk about disadvantages. Because the writer wants to persuade the readers that leasing is the best option. . **{Agreeing/Explaining}**

Khalid: I don't think the writer has not mentioned the disadvantages. He has done that in a very interesting way and compared to the advantages the proportion is very little, about 10 percent. .
{Disagreeing/Explaining}

Ahmad: I may be wrong but can you please show an example that how and where she has given a disadvantage in an interesting way? {Disagreeing/asking for elaboration}

Khalid: Ahmad I am quoting one paragraph from the text here:

“Closed-end leasing works are considered the easiest for budgeting and controlling costs. However, they carry a penalty if the stipulated mileage in their 24 or 36-month term is exceeded.”

The writer has barely mentioned it without giving much details or examples. This shows she is fully supporting leasing and glossing over such disadvantages. It feels like propaganda.

{Critiquing}

5. How would you describe the style of this article? Why do you think the author chose this style?

Saleh: This article is written to persuade the readers that leased trucking offers best solution to business companies. This is called persuasive writing. The writer has used this style because she wants prove that fact about leasing. {Explaining}

Ahmad: The writer has given many reasons why leased trucks are better deal for delivering productions to retail market. Hence the writer has used many reports, data and opinion of people in favour of leasing. She has used this style to persuade that leasing is better than owning a fleet of truck specially for small and medium scale distributors. {Explaining}